

தமிழாய்வுத் துறை

ODD SEMESTER

இனங்கலைத் தமிழ் (முதல் பருவம்)

மேலும் இடம் / Major / Non Major / Allied / Elective / Skill	பருவம்	தேர்வுகள்	பரப்புகள்
மேலும் இடம்	மொத்தமறிவு	<ol style="list-style-type: none"> 1. தமிழ் இலக்கிய வரலாற்றுக் கற்பித்தல் 2. தமிழ் இலக்கிய நூல்களின் தேர்ந்தெடுத்த ஆய்வுகூறு அறிவித்தல். 3. தமிழ் இலக்கியங்களின் வடிவ, உள்ளடக்க மாற்றங்களைத் தெளிவுபடுத்துதல். 	<ol style="list-style-type: none"> 1. தமிழ் இலக்கியங்கள் காலத்தோறும் தேர்ந்தெடுத்த வரலாற்று அறிவு. 2. இலக்கியங்களுக்கும் அரசியல் வரலாற்றுக்கும் இடையே உள்ள உறவை அறிவு. 3. இலக்கிய நூல்களின் தேர்ந்தெடுத்த காரணிகளை அறிந்துகொள்வது.
Major	இக்கால இலக்கியம்	<ol style="list-style-type: none"> 1. தமிழ் மரபுகளின் புத்தகங்களை முதலாவதான அறிமுகப்படுத்துதல் 2. நாடகம், சிறுகதை, நாவல் கட்டுரை முதலான இலக்கிய வடிவங்களைக் கற்பித்தல் 3. இக்கால இலக்கியத்தின் மீதான சர்ச்சை மிகுவித்தல் 	<ol style="list-style-type: none"> 1. தமிழ் இலக்கியத்தின் மீதான அறிவு மிகும். 2. புதிய இலக்கியவடிவங்களை அறிவு. 3. கவிதை, சிறுகதை, நாவல் ஆகியவற்றைப் படைக்க முயல்வது.
Major	நவீனம் (அறிவு)	<ol style="list-style-type: none"> 1. தமிழின் ஐந்தாம் நூற்றாண்டுகளின் முதலாவதான அறிமுகப்படுத்துதல் 2. தமிழ் மொழி மரபறிந்து பிழையின்றி எழுதவும் போஷம் விரிவுகூறும். 3. அறிமுகப்படுத்தும் புனைபெயர் வகைகள் கூறுகள் போஷவற்றைக் கற்பித்தல் 	<ol style="list-style-type: none"> 1. தமிழைப் பிழையின்றி எழுதும் திறன் பெறுவது. 2. வல்லினம் மிகும் இடங்கள் மிக இடங்களை அறிவு. 3. தமிழ் மொழி இலக்கணத்தில் புனைபெயர் பெறுவது.
Allied	தமிழ் இலக்கிய வரலாறு	<ol style="list-style-type: none"> 1. தமிழ் இலக்கிய வரலாற்றுக் கற்பித்தல் 2. தமிழ் இலக்கிய நூல்களின் தேர்ந்தெடுத்த ஆய்வுகூறு அறிவித்தல். 3. தமிழ் இலக்கியங்களின் வடிவ, உள்ளடக்க மாற்றங்களைத் தெளிவுபடுத்துதல். 	<ol style="list-style-type: none"> 1. தமிழ் இலக்கியங்கள் காலத்தோறும் தேர்ந்தெடுத்த வரலாற்று அறிவு. 2. இலக்கியங்களுக்கும் அரசியல் வரலாற்றுக்கும் இடையே உள்ள உறவை அறிவு. 3. இலக்கிய நூல்களின் தேர்ந்தெடுத்த காரணிகளை அறிந்துகொள்வது.
General paper	மதிப்புக் கல்வி	<ol style="list-style-type: none"> 1. வாழ்வியல் தத்துவம் சமூக மதிப்பும் மனித உரிமைகளும் பயிற்றுவித்தல். 2. பொதுவான ஆரோக்கியமும் அறிந்துகொள்வது. 3. மனித அகத்த தேர்வாணையத்தின் பங்கு உணர்த்துதல் 	<ol style="list-style-type: none"> 1. வாழ்வியல் தத்துவம் அறிந்துகொள்வது. 2. ஆரோக்கியம் பற்றி அறிந்துகொள்வது. 3. அகத்த கட்டுமைகளைப் பற்றி அறிந்துகொள்வது.

இளங்கலைத் தமிழ் இரண்டாமாண்டு (முன்றாம் பருவம்)

Major / Allied / Skill

செய்திப் பாடம் / Major / Non Major / Allied / Elective / Skill	பாடம்	நோக்கம்	பயன்கள்
செய்திப் பாடம்	மொத்தத்தமிழ்	<ol style="list-style-type: none"> 1. தமிழ்க் காப்பியங்களை அறிமுகப் படுத்துதல்தல். 2. காப்பியங்கள் கரும் வாழ்வியல் அரங்களை உணர்த்துதல். 3. காப்பிய இலக்கியங்களின் இலக்கியச் சுவையைப் பயிற்றுவித்தல். 	<ol style="list-style-type: none"> 1. காப்பிய இலக்கியத்தின் சிறப்புகளை அறிவர். 2. காப்பியக் கதைகள் வழி அறச்சிந்தனைகளைப் பெறுவர். 3. பல்வேறு காப்பிய ஷடவங்களைப் பற்றிய அறிவைப் பெறுவர்.
Major	சித்தர் இலக்கியம்	<ol style="list-style-type: none"> 1. மனித உடல் உள்மன சார்ந்த சித்தர்களின் கருத்துக்களைக் கற்பித்தல். 2. மனித வாழ்வியல் குறித்த சித்தர்களின் சிந்தனைகளைப் பயிற்றுவித்தல். 3. சித்தர் பாடல்களில் அமைந்துள்ள குறியீடு முதலான உத்திகளைக் கற்பித்தல். 	<ol style="list-style-type: none"> 1. உள்மன சார்ந்த சித்தர்களின் கருத்துக்களை அறிவர். 2. வாழ்வியல் குறித்த சித்தர்களின் சிந்தனைகளை பற்றி அறிவர். 3. குறியீடுகள் மற்றும் படிமங்களைப் பற்றி உணர்வர்.
Major	யாப்படுங்கலக் காவிகை (ஒழிபியல் நீங்கலாக)	<ol style="list-style-type: none"> 1. யாப்பிலக்கணம் கற்பித்தல். 2. பாங்கைகளைப் பயிற்றுவித்தல். 3. பா இணங்களைக் கற்றுத்தருதல். 	<ol style="list-style-type: none"> 1. யாப்பிலக்கணம் அறிவர். 2. பாங்கைகளை உணர்வர். 3. பா இணங்களை அறிந்துகொள்ளுதல்.
Allied	தமிழக ஷரணமும் மக்கள் பண்பாடும்	<ol style="list-style-type: none"> 1. தமிழ் மக்களின் சமூக ஷரணத்தைக் கற்பித்தல். 2. தமிழ் மக்களின் பண்பாட்டைப் பயிற்றுவித்தல். 3. தமிழ் மக்களின் வாழ்வியல் விழுமியச் சிந்தனைகளைப் பயிற்றுவித்தல். 	<ol style="list-style-type: none"> 1. தமிழ் மக்களின் சமூக ஷரணத்தை அறிந்துகொள்வர். 2. தமிழ் மக்களின் பண்பாட்டைப் பாதுகாப்பர். 3. தமிழ் மக்களின் வாழ்வியல் விழுமியச் சிந்தனைகளை உணர்வர்.
General paper	சுற்றுலாவியல்	<ol style="list-style-type: none"> 1. சுற்றுலாத் தலைகள் மற்றும் அதன் ஷரணத்தினைப் பயிற்றுவித்தல். 2. சுற்றுலாத் துறையில் உள்ள வேலை வாய்ப்பினை கற்பித்தல். 	<ol style="list-style-type: none"> 1. சுற்றுலாவின் மேன்மைகளை அறிவர். 2. சுற்றுலாவின் பாரம்பரிய தகவல்களை ஆராய்ந்து அறிவர்.

இளங்கலைத் தமிழ் மூன்றாமாண்டு (ஐந்தாம் பருவம்)

பெயர் / Major / Elective / Skill	பயிற்சி	நோக்கம்	பயன்
Major	காப்பியம்	1. தமிழில் காப்பியங்களை அறிமுகம் செய்துரைத்தல். 2. காப்பியங்கள் கருவியும் வடிவியல் அளவுகளை உணர்த்துதல். 3. காப்பிய இலக்கியங்களின் இலக்கிய சுவையைப் பயிற்றுவித்தல்.	1. காப்பிய இலக்கியத்தில் சிறப்புகளை அறிவர். 2. காப்பியக் கதைகள் வழி அறச்சிந்தனைகளைப் பெறவர். 3. பல்வேறு காப்பிய வடிவங்களைப் புறிய அறிவைப் பெறவர்.
Major	அறு இலக்கியம் (நிருகந்தரன் நிகமலாக)	1. அறு கருத்துக்களை அறிவுறுத்துதல். 2. நீதி நெறிகளைப் பயிற்றுவித்தல். 3. வாழ்க்கை அறங்களை உணர்த்துதல்.	1. அறு சிந்தனைகளைப் பெறவர். 2. நீதி நெறிக் கருத்துக்களை உணர்வர். 3. வாழ்க்கை அறங்களை உணர்த்து அதன் வழி அறிவர்.
Major	நாயகப் பொருள்	1. அகப்பொருள் புறப்பொருள் இலக்கணம் கற்பித்தல். 2. தமிழரின் அக வாழ்க்கை நெறிகளைப் பயிற்றுவித்தல். 3. அக மரபு பெற்ற மாற்றங்களை தெளிவுபடுத்துதல்.	1. அகத்திணைகள் புரிஅறிவர். 2. புறத்திணைகள் புறியஅறிவைப் பெறவர். 3. பழங்கால அகவாழ்க்கை, புறவாழ்க்கை நெறிகளை உணர்வர்.
Major	திருக்குறள்	1. மனித ஒழுக்கங்களை கற்பித்தல். 2. அறு நெறிக் கருத்துக்களை பயிற்றுவித்தல். 3. மூப்பலின் வழி நீதி நெறிகளை உணர்த்துதல்.	1. ஒழுக்க முறைகளை அறிவர். 2. சான்றோரின் மதிப்பினை அறிவர். 3. பணிந்து போற்றும் பண்பை உணர்வர்.
Major Based Elective - I	நாட்டுப்புற இலக்கியம்	1. நாட்டுப்புற இலக்கியங்களின் சிறப்பை உணர்த்துதல். 2. நாட்டுப்புற இலக்கியங்களின் அடிப்படைப் பண்புகளைக் கற்பித்தல். 3. நாட்டுப்புற இலக்கியங்களில் உள்ள சமுதாயப் பதிவுகளைப் பயிற்றுவித்தல்.	1. நாட்டுப்புற இலக்கியங்களின் தனித் தன்மைகளையும் சிறப்புகளையும் உணர்வர். 2. நாட்டுப்புற இலக்கியங்களின் வழி மக்களின் வாழ்வியலை அறிவர். 3. தமிழ் சமூகத்தின் தொன்று தொட்ட மரபுகளை அறிவர்.
Skill	மெய்திறன் மேம்பாடு	1. வந்ததக நெறிமுறைகளைக் கற்பித்தல். 2. பணித்திறன் மேம்பாட்டை பயிற்றுவித்தல். 3. மெய்திறன் அறிவை உணர்த்துதல்.	1. வந்ததக அறிவினைப் பெறவர். 2. மெய் திறன்களை வளர்த்துக் கொள்வதற்கான வழி முறைகளைப் பெறவர். 3. தனித் திறமைகளில் சிறந்து விளங்குவர்.
Skill Based Elective - I	நாளிதழ் உருவாக்கமும் ஷவுவமைப்பும்	1. நாளிதழ் பற்றியச் செய்திகளை கற்பித்தல். 2. படைப்புத் திறனை மேம்படுத்துதல். 3. வாசிப்பு திறனையும் எழுத்துத் திறனையும் அறிவுறுத்துதல்.	1. நாளிதழ் உருவாக்கம் ஷவுவமைப்பு குறித்த அறிவு. 2. படைப்புத் திறன் பெறவர். 3. நாளிதழ் ஷவுவமைப்புகளில் உள்ள மேன்மையை அறிவர்.
Skill Based Elective - II	இலக்கிய இதழ்கள்	1. இதழ்கள் பற்றியச் செய்திகளைக் கற்பித்தல். 2. இதழ்களின் தன்மைகளைக் கற்பித்தல்.	1. இதழ்களில் வரும் செய்திகளை ஆராயக் கற்றுக் கொள்வர். 2. இதழ்கள் பற்றி அறிவர்.

முதுகலைத் தமிழ் முதலாமாண்டு (முதல் பருவம்)

மேஜர் / மா.ம / Major / Non Major / Allied / Elective / Skill	மா.ம	தேக்கம்	பயன்
Major	இலக்கண இலக்கியம்	1. இலக்கண இலக்கியங்களை அறிமுகம் செய்தல். 2. பாடப்பாக்க உத்திகளை விளக்குதல். 3. சிறுகதை புதினம் நூலை முதலான பாடப்பிலக்கியங்களைப் படிக்கும் திறமையைப் பயிற்றுவித்தல்.	1. புதுக்கவிதைபின் அமைப்பு வகைகளைக் கற்றுணர்வர். 2. தமிழ்ப் புதினங்களின் பாடுபொருள் போக்குகள் குறித்து அறிவர். 3. உரைநடைப் போக்கினைப் பற்றி அறிவர்.
Major	சிறுநிலக்கியம்	1. தமிழ் சிறுநிலக்கியங்களை அறிமுகம் செய்தல். 2. சிறுநிலக்கியங்களின் வகைகளை அறிமுகம் செய்தல். 3. சிறுநிலக்கியத்தின் உருவ உடனடிக்கத்தை கற்பித்தல்.	1. சிறுநிலக்கியவகைகளை இனங்கண்டார். 2. சிறுநிலக்கியத்தின் யாப்பு வகைகளை அறிவர். 3. சிறுநிலக்கியத்தின் சிறப்பினை உணர்வர்.
Major	தொல் காப்பியம் (எழுத்த)	1. தொல்காப்பியத்தின் நூல் அமைப்பினைக் கற்பித்தல். 2. எழுத்திலக்கணக் கோட்பாட்டினை தெளிவுபடுத்துதல். 3. நூற்பாக்களின் இன்றியமையாமையை விவரித்தல்.	1. எழுத்திலக்கணத்தின் தோற்றம் பற்றி அறிவர். 2. எண்ணப் பெயர்ப் புணர்ச்சி பற்றி அறிவர். 3. புணர்ச்சி இயல்புகளை உணர்வர்.
Major	இலக்கண வரலாறு	1. தமிழ் இலக்கண வரலாற்றை அறிபன் செய்தல். 2. இலக்கணத்தின் இன்றியமையாமையை விளக்குதல். 3. யாப்பியலை விளக்குதல்.	1. தமிழ் இலக்கணச் சிறப்பை ஆய்ந்தறிவர். 2. இலக்கண வகைகளை அனைத்துக் கற்றுணர்வர். 3. இலக்கணப் பாடுபாடுகளைக் கற்றுறிவர்.
Elective - 1	மக்கள் தகவல் தொடர்பியல்	1. மக்கள் தகவல் தொடர்பியல் குறித்து அறிமுகம் செய்தல். 2. தகவலியல் கருவிகளை இனங்காட்டுதல். 3. தேசிய வளர்ச்சியில் ஊடகத்தின் பங்களிப்பினை இயல்புதல்.	1. தகவலியல் கருவிகளின் பாகு பாகுகளைக் கற்றுறிவர். 2. ஊடகத் தொடர்புக் கோட்பாடுகளைக் கற்றுணர்வர். 3. தேசியப் பட்டாளம் காப்பகத்தில் செயல்பாடுகளை ஆய்ந்தறிவர்.
Major	பேச்சுக்கலை	1. மேடைப்பேச்சின் முக்கியத்துவத்தை உணர்த்துதல். 2. மேடையில் பேசும் வழிமுறைகளைக் கற்பித்தல். 3. மேடைப்பேச்சாளர்களின் தனித்தன்மைகளை உணர்த்துதல்.	1. மேடைப்பேச்சின் விதிமுறைகளை அறிவர். 2. மேடைப்பேச்சின் வகைகளை அறிவர். 3. மேடை நாகரீகத்தை அறிந்துகொள்வர்.

முதுகலைத் தமிழ் இரண்டாண்டு (முன்றாம் பருவம்)

செய்தல் பாடம் / Major / Non Major / Allied / Elective / Skill	பாடம்	தேர்ச்சி	பயிற்சி
Major	அற இலக்கியம்	1. அறக் கருத்துக்களை அறிவுறுத்தல். 2. நீதிநெறிகளைப் பயிற்றுவித்தல். 3. வாழ்க்கை அறங்களை உணர்த்தல்.	1. அறச் சிந்தனைகளைப் பெறுவர். 2. நீதிநெறிக் கருத்துக்களை உணர்வர். 3. வாழ்க்கை அறங்களை உணர்த்துதலை அறி அறிவர்.
Major	ஆராய்ச்சி நெறிமுறைகள்	1. தமிழ் ஆய்வுரைநெறி ஆராய்ச்சிநெறி. 2. ஆராய்ச்சி நெறிமுறைகளை விளக்குதல். 3. ஆய்வேட்டு அமைப்பு முறைகள் குறித்து மொழிதல்.	1. தரவுகளை சேகரிக்க அறிந்துகொள்வர். 2. ஆய்வு நடப்பங்களை அறிவர். 3. ஆராய்ச்சிகள் குறித்தும் ஆய்வுகள் குறித்தும் அறிவர்.
Major	தொல் காப்பியம் (பொருள்)	1. பொருளிலக்கணக் கோட்பாடுகளைத் தெளிவுபடுத்துதல். 2. தமிழரின் அக புறவாழ்வை இயம்புதல். 3. தொல்காப்பியக் கோட்பாடுகளை விளம்புதல்.	1. பொருளறிவுகாரத்தின் தொற்றுப் பற்றி அறிவர். 2. அக புற இலக்கணங்களைப் பகுத்தறிவர். 3. உள்ளூறை இறைச்சிக் கோட்பாட்டினைக் கற்றுணர்வர்.
Major	சிந்தை இலக்கியம்	1. மனித உடல் உள்ளம் சார்ந்த சிந்தைகளின் கருத்துக்களைக் கற்பித்தல். 2. மனித வாழ்வியல் குறித்த சிந்தைகளின் சிந்தனைகளைப் பயிற்றுவித்தல். 3. சிந்தை பாடல்களில் அமைந்துள்ள குறியீடு முதலான உத்திகளைக் கற்பித்தல்.	1. உள்ளம் சார்ந்த சிந்தைகளின் கருத்துக்களை அறிவர். 2. வாழ்வியல் குறித்த சிந்தைகளின் சிந்தனைகளைப் பற்றி அறிவர். 3. குறியீடுகள் மற்றும் படிமங்களைப் பற்றி உணர்வர்.
Elective - II	ஒப்பீடுகாப்பியம்	1. உரை நூல்களைப் பற்றி கற்பித்தல். 2. பிறமொழி நூல்களின் சிறப்பினைக் கற்பித்தல்.	1. பிறமொழிநூற் சிறப்பினைக் கற்பி. 2. நம் நூல்களோடு பிற நூல்களை ஒப்பீட்டு பார்த்து உணர்வர்.

EVEN SEMESTER

இளங்கலைத் தமிழ்முதலாமாண்டு (இரண்டாம் பருவம்)

மொழி மட்டம் / Major / Non Major / Allied / Elective / Skill	பட்டம்	தோக்கம்	பயன்கள்
Major	சிற்றிலக்கியம்	<ol style="list-style-type: none"> 1. சிற்றிலக்கியத்தில் பல்வேறு வகைகளை அறிமுகப்படுத்த்தல். 2. சிற்றிலக்கியங்களில் அமைந்துள்ள சமயம் சார்ந்த செய்திகளைக் கற்பித்தல். 3. சிற்றிலக்கியங்களில் உள்ள இலக்கிய நயங்களை அறியச் செய்தல். 	<ol style="list-style-type: none"> 1. தமிழ் இலக்கியங்களில் வளத்தினை அறிவர். 2. சிற்றிலக்கியங்கள் வழி சமயம் சார்ந்த செய்திகளை அறிவர்.
Major	நன்னூல் (சொல்)	<ol style="list-style-type: none"> 1. தமிழின் ஐந்திலக்கணங்களில் முதலாவதாக எழுத்திலக்கணத்தை அறிந்துகொள்ளுதல். 2. தமிழ் மொழி மாற்றிய பிழையின்றி எழுதவும் போஷம் வழிவகுத்தல். 3. எழுத்திலக்கணத்தில் புணர்ச்சி வகைகள் கூறுகள் போன்றவற்றைக் கற்பித்தல். 	<ol style="list-style-type: none"> 1. தமிழைப் பிழையின்றி எழுதும் திறன் பெறுவர். 2. வல்லினம் மீதும் இடங்கள் மிகா இடங்களை அறிவர். 3. தமிழ் மொழி இலக்கணத்தில் புலமைப் பெறுவர்.
Allied	தமிழக வரலாறு மக்கள் பண்பாடும்	<ol style="list-style-type: none"> 1. பண்டையத் தமிழகத்தில் அரசியல் முறையினை கற்பித்தல். 2. சங்கத் தமிழர்களின் வாழ்வியல் முறையினை பயிற்றுவித்தல். 3. பண்டையத் தமிழகத்தின் சமூக நிலையினை அறியச் செய்தல். 	<ol style="list-style-type: none"> 1. தமிழ்ச் சமூகம் பண்பாடு பொருளாதாரம் குறித்த வரலாற்றுரைவு பெறுவர். 2. நாயன்மொழி மற்றும் தாய் நாட்டுரைவு பெறுவர். 3. தமிழக மக்களின் போட்டித் தேர்வு முதலாவதறிந்தகால அறிவுட்டல் பெறுவர்.
General paper	கற்றுச்சூழல் கல்வி	<ol style="list-style-type: none"> 1. கற்றுச்சூழல் அறிவியலில் பல்புற அணுகு முறையினை பயிற்றுவித்தல். 2. இயற்கை வளங்களின் தன்மையின் விளக்குதல். 	<ol style="list-style-type: none"> 1. உயிரின வளம் மற்றும் அதன் பாதுகாப்பை அறிவர். 2. கற்றுச்சூழல் மாசுபாட்டை புறநி விரிப்புகரைவு பெறுவர்.

இளங்கலைத் தமிழ் இரண்டாமாண்டு (நான்காம்பருவம்)

பாடம் / Major / Non Major / Allied / Elective / Skill	பாடம்	தேக்கம்	பயன்கள்
மொழிப்பாடம்	பொதுத்தமிழ்	<ol style="list-style-type: none"> 1. தமிழ் இலக்கிய வரலாற்றைக் கற்பித்தல் 2. தமிழ் இலக்கிய நூல்களின் தேர்ந்த வளர்ச்சி ஆகியவற்றை அறிவித்தல். 3. தமிழ் இலக்கியங்களின் வடிவ, உள்ளடக்க மாற்றங்களைத் தெளிவுபடுத்துதல். 	<ol style="list-style-type: none"> 1. தமிழ் இலக்கியங்கள் காலத்தோறும் தோன்றி வளர்ந்த வரலாற்றை அறிவர். 2. இலக்கியங்களுக்கும் அரசியல் வரலாற்றுக்கும் இடையே உள்ள உறவை அறிவர். 3. இலக்கிய நூல்களின் தேர்ந்த காரணிகளை அறிந்து கொள்வர்.
Major	சமய இலக்கியம்	<ol style="list-style-type: none"> 1. சமயம் சார்ந்த இலக்கியங்களை அறிமுகப்படுத்துதல். 2. சமய இலக்கியங்களுக்கு இடையே நிலவும் பொதுத் தன்மைகளைத் தெளிவுபடுத்துதல். 3. சமய இலக்கியங்கள் வலியுறுத்தும் சமுதாய மெய்ப்பாடு சிந்தனைகளை உணர்த்துதல். 	<ol style="list-style-type: none"> 1. காலத்தோறும் பக்தி இலக்கியம் வளர்ந்து வந்துள்ள வரலாற்றை அறிவர். 2. பல்வேறு சமயக் கோட்பாடுகளை அறிவர். 3. வணக்கம் சமயங்களும் வலியுறுத்தும் மனிதம் ஒன்றே என்பதை உணர்வர்.
Major	தன்மயலக்கியம்	<ol style="list-style-type: none"> 1. தமிழ் இலக்கிய அணிகளைக் கற்பித்தல். 2. அணிகளின் வகைகளை பயிற்றுவித்தல். 3. அணி இலக்கண பரிணாம வளர்ச்சியை கற்பித்தல். 	<ol style="list-style-type: none"> 1. பாடல்களில் உள்ள அணிகளை இளம் காண்பர். 2. அணிகளின் நுட்பமான வேறுபாடுகளை அறிவர். 3. தத்தம் பாடப்பாக்கங்களில் பல்வேறு அணிகளைப் பயன்படுத்துவர்.
Allied	பண்டிதிலக்கியம்	<ol style="list-style-type: none"> 1. பண்டிதிலக்கியத்தின் பல்வேறு கூறுகளைக் கற்பித்தல். 2. பண்டிதிலக்கிய மொழியின் தனித் தன்மைகளை அறிவுறுத்தல். 3. கவிதை நாடகம் உரைநடை சிறுகதை ஆகியவற்றின் தனித் தன்மைகளைக் கற்றுத்தருதல். 	<ol style="list-style-type: none"> 1. தமிழ் பாண்டிதிலக்கண மரபை அறிவர். 2. இலக்கியப் பண்டிதிலக்கண திறன் பெறுவர். 3. பல்வேறு உரைநடை வகைகளைக் கையாள்வதில் பயிற்சிபெறுவர்.
Non Major Elective - II	சிந்தனையியல்	<ol style="list-style-type: none"> 1. மனித சமூகத்தில் சிந்தனை தோன்றி வளர்ந்த வரலாற்றைக் கற்பித்தல். 2. உலகின் மிகச் சிறந்த சிந்தனையாளர்களின் சிந்தனைகளைப் பயிற்றுவித்தல். 3. இந்திய தமிழகச் சிந்தனையாளர்களின் சமூகம் சார்ந்த சிந்தனைகளை உணர்த்துதல். 	<ol style="list-style-type: none"> 1. சமூக மாற்றத்திற்கு சிந்தனை வளர்ச்சி தேவை என்பதை உணர்வர். 2. உலக இந்திய தமிழகச் சிந்தனையாளர்களின் சமூகப் பங்களிப்பை அறிவர். 3. சமூகம் சார்ந்த சிந்தனையை வளர்த்துக் கொள்ளும் ஆற்றல் பெறுவர்.

இணைக்கலைத் தாழ்வு முன்றலானது(அறியும் பருவம்)

தேர்வு ம.அ.அ. / Major / Non Major / Allied / Elective / Skill	ம.அ.அ.	தேர்ச்சு	பயிற்சி
Major	இணைக்கலை	1. தாழ்வு இணைக்கலை வரலாற்றுக்குக் கருவியாகும். 2. தாழ்வு இணைக்கலை நூல்களின் தேர்வும் வரலாற்று ஆய்வறிக்கை அறிவிக்கப்படும். 3. தாழ்வு இணைக்கலைகளின் வடிவம், உட்கட்டமைப்புகள், மாற்றங்களைத் தெரிவிக்கப்படும்.	1. தாழ்வு இணைக்கலைகள் காலத்திதழ்மூலம் தேர்வு செய்து வரலாற்று அறிவு. 2. இணைக்கலைகளையும் அரசியல் வரலாற்றுக்கும் இடையே உள்ள உட்கட்டமைப்புகள் அறிவு. 3. இணைக்கலை நூல்களின் தேர்வும் காலத்திதழ்மூலம் அறிவிக்கப்படும்.
Major	தாழ்வு சமீபத்திய பண்டங்கள்	1. உட்கட்டமைப்புகள் சமீபத்திய பண்டங்களை மாற்றும் பரிமாற்றத்தால். 2. சமீபத்திய இணைக்கலை அறிவு சமீபத்திய. 3. தாழ்வு சமீபத்திய தேர்வும் சமீபத்திய இணைக்கலை விருப்பங்களைக் கருவியாகும்.	1. தாழ்வு உட்கட்டமைப்புகளின் பரிமாற்றத்தால் அறிவு. 2. தாழ்வு சமீபத்திய தேர்வு தந்த தாழ்வு சமீபத்திய சமீபத்திய அறிவு. 3. தாழ்வு சமீபத்திய அறிவு தரும் வரலாற்று விருப்பங்களை உட்கட்டமைப்புகள் அறிவு.
Major	புத்தகங்களை வெளியிடும்	1. புத்தகங்களை இணைக்கலை கருவியாகும். 2. புத்தகங்களை மாற்றும் பரிமாற்றத்தால். 3. தேர்வுகளில் புத்தகங்களைக் கருவியாகும் மாற்றங்களை அறிவிக்கப்படும்.	1. புத்தகங்களை மாற்றும் அறிவை வெளியிடும். 2. புத்தகங்களை மாற்றும் அறிவை வெளியிடும். 3. புத்தகங்களை மாற்றும் தேர்வுகளை மாற்றும் அறிவு.
Skill Based Elective - II	தாழ்வு வரலாற்று	1. தாழ்வு வரலாற்றின் தொன்மையை உட்கட்டமைப்புகள் அறிவு. 2. தாழ்வு வரலாற்றின் காலத்திதழ்மூலம் வரலாற்றுக்குக் கருவியாகும். 3. தாழ்வு வரலாற்றின் தேர்வு அமைப்பில் சமீபத்திய மாற்றங்களை அறிவிக்கப்படும்.	1. தாழ்வு வரலாற்றின் பரிமாற்ற சமீபத்திய அறிவு. 2. தாழ்வு வரலாற்றின் வரலாற்று தன்மைகளை அறிவு. 3. மாற்றங்களைத் தந்தியாக இயலாது என்பதை உட்கட்டமைப்புகள் அறிவு.
Skill Based Elective - III	கல்வெட்டுகள்	1. தாழ்வு தொன்மையைச் சமீபத்திய பரிமாற்றத்தால். 2. கல்வெட்டுகளை வரிப் பரிமாற்றத்தில் வரலாற்றுக்குக் கருவியாகும். 3. கல்வெட்டுகளை வரிப்பரிமாற்றம் பரிமாற்றம் செய்து அறிவிக்கப்படும்.	1. தாழ்வு வரலாற்றின் தொன்மையை அறிவு. 2. தாழ்வு கல்வெட்டுகளை தொன்மை வெளியிடும் அறிவு. 3. தாழ்வு வரலாற்று இணைக்கலை வரலாற்று உட்கட்டமைப்புகள் அறிவு.

முதுகலைத் தமிழ் முதலாமாண்டு(இரண்டாம் பருவம்)

பட்டம் / Major / Non Major / Allied / Elective / Skill	பட்டம்	நோக்கம்	பயன்கள்
Major	சமய இலக்கியம்	1. சமயம் சார்ந்த இலக்கியங்களை அறிமுகப்படுத்துதல். 2. சமய இலக்கியங்களுக்கு இடையே நிலவும் பொதுத் தன்மைகளைத் தெளிவுபடுத்துதல். 3. சமய இலக்கியங்கள் வலியுறுத்தும் சமுதாய மேம்பாட்டு சிந்தனைகளை உணர்த்துதல்.	1. காலத்தொழும் பக்தி இலக்கியம் வளர்ந்து வந்ததன் வரலாற்றை அறிவர். 2. பல்வேறு சமயக் கோட்பாடுகளை அறிவர். 3. அனைத்துச் சமயங்களும் வலியுறுத்தும் மனிதம் ஒன்றே என்பதை உணர்வர்.
Major	காப்ய இலக்கியம்	1. தமிழ்க் காப்யங்களை அறிமுகப் படுத்துதல்தல். 2. காப்யங்கள் கண்டும் வாழ்வியல் அறங்களை உணர்த்துதல். 3. காப்ய இலக்கியங்களின் இலக்கியப் சுவையைப் பயிற்றுவித்தல்.	1. காப்ய இலக்கியத்தின் சிற்புகளை அறிவர். 2. காப்யக் கதைகள் வழி அழை சிந்தனைகளைப் பெறுவர். 3. பல்வேறு காப்ய வடிவங்களைப் பற்றிய அறிவைப் பெறுவர்.
Major	தொல்காப்யம் (சொல்)	1. சொல்லிலக்கணம் அறிமுகம் செய்தல். 2. நூலின் அமைப்பை விளக்குதல். 3. தற்காலத் தமிழோடு ஒப்பிட்டுக் கற்பித்தல்.	1. திணை பால் வகைகளை அறிவர். 2. உயர்திணை அடிகள்களின் வேறுபாடு அறிவர். 3. புனைடைகளில் இன்றியமையாமையை விளாதிப்பர்.
Major	ஒப்பீட்டு நோக்கில் உயர்ச் செம்மொழிகள்	1. இலக்கிய ஒப்பாய்வின் நோக்கத்தை கற்பித்தல். 2. உலகச் செம்மொழி இலக்கியப் பாடுபொருளைக் கற்பித்தல். 3. வேறுபுல இலக்கியப் பண்புகளை மொழிதல்.	1. உலகச் செம்மொழி இலக்கியங்களை அறிந்துகொள்வர். 2. செம்மொழி இலக்கியங்களின் பொருள் பண்புகளை அறிவர். 3. வாய்மொழிக் கதை மரபுகள் குறித்து அறிவர்.
Non Major Elective I	தொல்லியல்	1. அகழாய்வு நெறி முறைகளைக் கற்பித்தல். 2. தொல்லியல் குறித்து அறிமுகம் செய்தல். 3. தொல்லியல் வகைகள் இயம்புதல்.	1. தொல்லியல் வரலாற்றினைக் கற்றுறிவர். 2. பழந் தமிழரின் வரலாற்றினை அறிவர். 3. தொல்லியல் பரம்பாறியினரைக் கற்றுணர்வர்.

முதுகலைத் தமிழ் இரண்டாமாண்டு (நான்காம் பருவம்)

மேலும் பாடம் / Major / Non Major / Allied / Elective / Skill	பாடம்	தேர்ச்சி	பயிற்சி
Major	தொல்காப்பியம் (மேற்க)	1. பொருளிலக்கணக் கோட்பாடுகளைத் தெளிவுபடுத்துதல். 2. தமிழின் சுக முறையை இயம்புதல். 3. தொல்காப்பியக் கோட்பாடுகளை விளக்குதல்.	1. பொருளிலக்கணத் தொழில் புத்திர அறிவு. 2. சுக முற இலக்கணங்களைப் பகுத்தறிவு. 3. மேம்பாடுகள் ஆற்றல் வற்றாமை.
Major	சைவமும் தமிழும்	1. சமயம் புத்திர அறிவு. 2. சமயம் வகைகளைக் குறிப்பிடுதல். 3. சைவ சமயம் புத்திர விளக்குதல்.	1. சமயங்களின் தெரிவை அறிவு. 2. பிற சமயங்களின் கோட்பாடுகளைக் குறிப்பிடுதல். 3. சைவ சமயத்தின் சிறப்பு புத்திர அறிவு.
Major	இலக்கியக் கோள்களும் திறனாய்வு	1. தமிழில் சேற்றொருள் தொடர் அளவியல் ஏற்பட்டுள்ள மாற்றங்களை அறிவுறுத்தல். 2. உயர்நிலைச் சேற்றொருள் பண்புகளை மனதில் பதியவைத்தல். 3. பிற இலக்கியங்களின் திறனை அறிவித்தல்.	1. தமிழ் மொழியின் பழமை சிறப்பு போன்றவற்றை உணர்வு. 2. தமிழ் மொழி வளர்ந்து வந்ததன் தன்மைகளை அறிவு. 3. பிறமொழிச் சேற்றிலக்கியங்கள் தரும் வளர்ச்சியை விழுமியங்களை உணர்வு.
Major	மேற்கு மொழியியல்	1. மொழியின் தன்மைகளை அறிவித்தல். 2. தமிழ் மொழியின் பிறமொழியோடு இணைப்புறுத்தி அறிவித்தல்.	1. தமிழ் மொழியின் வளத்தை அறிவிக்க வற்றக்கொளவு. 2. பிற மொழியின் உயர்ந்ததை அறிவு.

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சுமந்தி சைவம் சாதலாய்ப்பம்

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முதல்வர் கையொப்பம்
PRINCIPAL,
Sri Sarada Niketan College of
Science for Women,
Kodangipatti,
Karur - 639 005,

SRI SARADA NIKETAN COLLEGE FOR WOMEN, KARUR-05.

DEPARTMENT ENGLISH

Program Objectives and Outcomes

S.NO	Program	Objectives	Outcomes	Major/Allied	Semester
1	Prose	To acquaint the students with lives and works of great writers of prose. To instigate a sense of aesthetic beauty and love of aspirations. To provide some moral lesson through the essay.	To develop a knowledge about different genres of prose To get an idea about the development of prose through ages To expose the students early English Literature and transition	Major	I
2	WORLD SHORT STORIES	To explore the sequences in a story by knowing its themes, strategies and techniques employed by the writers and create an insight of various cultures of the world. To identify the characters and convey moral, ethical and cultural values. To enhance vocabulary knowledge of learning new words and phrases.	Analyze the style of writing and examine the story, plot and themes. Classify the different types of characters in real life situations. Understand the meanings of difficult words / phrases. Write or narrate a story creatively in own words. Recall and relate stories from different parts of the world.	Major	I
3	SOCIAL HISTORY OF ENGLAND	To help learners understand the social and literary history of England from the Middle Ages to the 20th century To make learners aware of the relation between socio-political and socio-religious events and literary works	Acquire knowledge of the course of British social history. Realize the major trends which have shaped English society Identify the key themes which encapsulate each period.	Allied	I
4	POETRY -I	To introduce learners to the changing trends in English poetry from Age of Renaissance to Johnson. To help learners analyze and appreciate poetry critically	Identify the essential elements of poetry. Appreciate the tone and theme, sound devices metre, rhythm, rhyme scheme Explain the figures of speech used in the poems. Understand the different types of poetry.	Major	II
5	FICTION	To introduce fiction as a literary genre. To familiarize learners with various techniques of fiction. To enable the learners to understand fiction as tool for	Understand fiction as a literary genre. Gain a grip over skimming and scanning methods of reading. Develop the various	Major	II

		enhancing reading skills. To orient the learners towards understanding the chronological development of fiction. To motivate the learners to write screen	methods of storytelling. Transform fiction into modern screenplay.		
6	LITERARY FORMS	To initiate learners into the study of various literary forms To enable learners to understand the literary terms while analyzing and interpreting the works of literature	Identify a wide variety of forms, styles and genres in English literature. Understand the significance of these forms in determining the meaning of texts. Have access to elementary	Allied	II
7	POETRY - II	To enable learners to comprehend the salient features of various types of poetry from the Romantics up to T. S. Eliot To make learners sharpen their poetic sensibility and stylistic skills	Recognize poetry from a variety of cultures, languages and historic periods. Analyze the various elements of poetry, such as diction, tone, form, genre, imagery, figures of speech, symbolism, theme, etc. Explain the features of different types of poetry.	Major	III
8	WORLD ONE-ACT PLAYS	To provide a deep insight in one-act plays of knowing different cultures, traditions and values across the globe. To expose learners to the sociological and psychological dimensions of characterization and focus on the reality in life.	Identify and discuss the theoretical elements of one-act plays. Explore the diverse culture, traditional approaches and values in a play. Analyze critically the themes, plot and cultural aspects of the play.	Major	III
9	HISTORY OF ENGLISH LITERATURE -I	To help learners know the literary history of the texts from the Age of Chaucer to Dryden To make learners understand the rise and fall of literary movements and their relationships to socio-political and socio-religious events	Understand the growth and development of English literature. Gain perspective on the different issues and themes presented during each period. Recognize growth of various literary genres, movements and schools in English literature.	Allied	III
10	PRESENTATION SKILLS	To enable students to develop their presentation skills as well as soft skills. To enhance students' communication skills including reading, writing, listening and speaking skills	Read with confidence, comprehension and fluency while interacting with the message. 25 Express ideas more effectively and enhance speaking and listening skills. Use slides, handouts, notes and other audio-visual aids effectively. Plan, structure and deliver powerful	Non Major	III

			presentations with effective messages.		
11	DRAMA	To introduce drama as a literary genre. To introduce drama as a literary genre. To familiarize learners with various techniques of drama.	Understand the theoretical skills. Opt for performance studies as a field of research and career. Compose their own versions of classical drama.	Major	IV
12	INTRODUCTION TO LANGUAGE AND LINGUISTICS	To introduce learners to the history of English language and concepts in linguistics. To enable learners to know the form and content of language and its scientific systems	Understand the discourse of linguistics. Describe the theoretical and practical manifestations of linguistics. Explain the origin of the English Language and its development.	Allied	IV
13	HISTORY OF ENGLISH LITERATURE -II	To help learners know the literary history of the texts from the Age of Pope to Hardy	Understand the growth and development of English literature. Gain perspective on the different issues and themes presented during each period. Recognize growth of various literary genres, movements and schools in English literature.	Allied	IV
14	FUNCTIONAL SKILLS	To develop communicative skills of the learners in listening, Speaking, Reading and Writing. To focus on how English is used in real-life situations.	Understand that grammar can be seen as a flexible and useful tool for their day to day life. Heighten their knowledge of correct usage of English grammar in writing and Speaking.	Skill Based	IV
15	SHAKESPEARE	To provide an understanding of Elizabethan and Jacobean context. To engage learners with the themes, dramatic texts and devices. To enable learners to know about style of writing in Shakespearean context	Gain insight into the age of Shakespeare and the uniqueness of Shakespearean creative output. Recognize the greatness of Shakespeare in the usage of language and characterization. Understand the personality traits of dominant characters.	Major	V
16	PRINCIPLES OF LITERARY CRITICISM	To provide an understanding of Elizabethan and Jacobean context. To engage learners with the themes, dramatic texts and devices. To enable learners to know about style of writing in the Shakespearean context.	Define critical terms and concepts from classical criticism to the contemporary criticism. Gain knowledge of various critical theories, approaches and schools of thought. Identify the major contributors to literary criticism and their ideas.	Allied	V

17	AMERICAN LITERATURE	To enable learners to know the richness of American literature through representative works of poets, essayists and novelists.	Obtain knowledge about the major writers and their contribution to American Literature. Appreciate the richness of American literature across various forms of literature – poetry, prose, drama, short story and novel	Major	V
18	HISTORY OF ENGLISH LANGUAGE AND PHONETICS	To introduce learners to the history of English language and concepts in phonetics. To familiarize learners with the prosodic features of language	Understand the significance of translation studies in enriching literature. Define the basic concepts of translation theory and terminology relevant to practical translation.	Allied	V
19	CREATIVE WRITING	Comprehend complex texts and draw Inferences. Analyze and assess the characteristics of the literary works. Distinguish various aesthetic approaches. Use formal, aesthetic, and rhetorical conventions within the prescribed literary texts. Write with clear expression in addition to specific purposes. Encourage Creative Writing in English.	Describe the writers, texts and movements that influence their work. Contribute to literary magazine, book reviews and other publications. Recognize the relevance and importance of the literary works. Discuss the hurdles in creative writing. Refine the skill of written presentations.	Skill based	V
20	COMMUNICATIVE SKILLS FOR TOURISM & HUMAN RESOURCE MANAGEMENT	Enhance the students' productive and receptive skills of the English language. Consolidate and complete the knowledge of grammar pertaining to the fields of transport, accommodation and catering. Master English for Occupational	Communicate effectively, in the target language, concepts concerning the tourist industry. Use the acquired knowledge of English language skills, solve problems related to touristic and territorial environment. Deal	Skill Based	V


		Purposes (EOP) and English for Tourism Purpose (ETP). Perform confidently in a job interview. Resolve difficult customer service situations.	with the public, preparing tours and events, management of planning, statistics and forecasting, and advertising. Possess vibrant interpersonal qualities		
2 1	INDIAN WRITING IN ENGLISH	To familiarize the students with the evolution of Indian Literature in English and the contribution of major writers to Indian Literature in English. To enable the students, understand the rich literary tradition and the contemporary relevance of various themes discussed in their writings.	Understand the major movements and writers of Indian Writing in English. Analyze and appreciate the concept of 'Indianisms' found in the works of Indian writers. Understand how well the Indian culture is reflected in Literature and how the cultural and societal issues are presented in Indian English literature.	Major	VI
2 2	COMMONWEALTH LITERATURE	To appreciate literary works from various countries that were once under British colonial rule as a branch of English Literature in general. To recognize that 'Commonwealth Writing' has a global relevance, significance, and resonance	Appreciate the literary works of Commonwealth countries after understanding the content related to the continents. Recognize the relevance, significance and resonance of the literary works in Commonwealth Literature. Evaluate the major themes and literary trends in Commonwealth Literature.	Major	VI
2 3	ENGLISH LANGUAGE TEACHING	To expose learners to various approaches and methods, aspects and strategies of teaching English To help learners understand the essential	Analyze the significance of English as a second language in India. Describe the various approaches and methods in	Major	VI


		components and concepts of language teaching	language teaching. Classify the different methods of teaching English and evaluation.		
2 4	INTRODUCTION TO JOURNALISM	To initiate learners into the history of journalism To expose learners to various aspects of journalism	Trace the history of journalism and the different stages of its development. Gain knowledge in the basic aspects of journalistic crafts such as reporting, research and storytelling	Major based Elective course	V
2 5	English for Competitive examination	To initiate the learners to participate in various competitive examinations	Exposed their talents in competitive examinations	Major Based elective course	VI

TANSCHÉ-PART-II-2023

S. No	Program	Objectives	Outcomes	Semester
1	GENERAL ENGLISH	To enable learners to acquire self awareness and positive thinking required in various life situations. To help them acquire the attribute of empathy To assist them in acquiring creative and critical thinking abilities	Acquire self awareness and positive thinking required in various life situations Acquire the attribute of empathy. Acquire creative and critical thinking abilities	I
2	GENERAL ENGLISH	To make students realize the importance	Realize the importance of resilience	II

		<p>of resilience To enable them to become good decision-makers To enable them to imhbe problem-solving skills To enable them to use tenses appropriately</p>	<p>Become good decision-makers Imhbe problem-solving skills Use tenses appropriately</p>	
3	GENERAL ENGLISH	<p>To make them active listeners To enhance the interpersonal relationship skills To embolden them to cope with stress To master grammar skills</p>	<p>Listen actively Develop interpersonal relationship skills Acquire self-confidence to cope with stress</p>	III
4	GENERAL ENGLISH	<p>To help learners imhbe goal-setting attitude. To enable them to understand the value of integrity. To help them deal with emotions. To teach the learners to frame sentences using tenses. To enhance reporting skills.</p>	<p>Determine their goals Identify the value of integrity. Deal with emotions. Frame grammatically correct sentences.</p>	IV


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DEPARTMENT OF COMMERCE
BCOM PROGRAMME OBJECTIVES AND OUTCOMES

Language /Major/Allied/ Non-Major Elective/ Skill Based	Semester	Programme Paper Title	Programme Outcome-Objectives	Programme Outcome –Outcomes
Professional English I	1	Professional English for Commerce & Management	<ol style="list-style-type: none"> 1.To understand the reading& speaking skills. 2.To learn the interview techniques. 3.To practice the writing skill. 	<ol style="list-style-type: none"> 1.They understood the reading& speaking skills. 2.They learned the interview techniques. 3.They practiced the writing skill.
Major Paper	1	Principles of Accountancy	<ol style="list-style-type: none"> 1.To enable the students to understand the basic principles and concepts of Accountancy. 2.To enhance the students to prepare the Final accounts for Sole Traders and rectification of errors. 3.To gain the knowledge to prepare the accounts for Non-Profit organisation and Bills of exchange. 	<ol style="list-style-type: none"> 1. The Concepts and Conventions of Financial Accounting. 2. Accounting for sole traders with adjustment entries and Rectification of Errors 3. Calculation of Accounts of Non-profit organization and Bills of exchange.
Major Paper	1	Marketing	<ol style="list-style-type: none"> 1.To know the basic concepts and functions of marketing 2.To learn about the buyer behaviour and new product development 3.To understand the pricing methods and services rendered by the middlemen 	<ol style="list-style-type: none"> 1. Familiar with the basic concepts and functions of marketing 2. Effective understanding of buyer behaviour and new product development 3. Communicate the pricing methods and services rendered by the middlemen
Allied paper	1	Management Concepts	<ol style="list-style-type: none"> 1.To expose students to the history of management thought. 2.To facilitate students, understanding of their own managerial skills for decision making. 3. To Examine the complexity of organization structure for business. 	<ol style="list-style-type: none"> 1. Understood the Evolution and theory of Management, 2.developedthe students to take decisions in various fields. 3. get a knowledge about various organization structure and its responsibility.
VE	1	Value Education	<ol style="list-style-type: none"> 1.To develop a senece of self awareness. 2. To know about ethical behavior 	<ol style="list-style-type: none"> 1.They developed a sense of self awareness. 2. They knowledge about ethical behavior

			3. To learn the critical thinking skills.	3. They learned the critical thinking skills.
Major Paper	II	Business Accounting	1. To knowledge about branch & departmental accounting process. 2. To learn the hire purchase system. 3. To understand the insolvency accounts.	1. They knowledge about branch & departmental accounting process. 2. They learned the hire purchase system. 3. They understood the insolvency accounts.
Major Paper	II	Business Tools For Decision Making	1. To learn introduction of statistics. 2. To Learn the measurement of dispersion. 3. To understand the index numbers.	1. They learned introduction of statistics. 2. They Learned the measurement of dispersion. 3. They understood the index numbers.
Allied Paper	II	Business Economics	1. To know about basics of economics. 2. To understand the concept of demand & supply. 3. To learn fiscal policy of government.	1. They knowledge about basics of economics. 2. They understood the concept of demand & supply. 3. They learned fiscal policy of government.
EVS	II	Environmental Studies	1. To understand the physical concepts. 2. To learn the social science culture. 3. To understand the economic and political analysis.	1. They understood the physical concepts. 2. They learned the social science culture. 3. They understood the economic and political analysis.
Major paper	III	Partnership Accounts	1. To enable the students understand the Partnership & Partnership Deed and prepare the accounts related to partnership accounts. 2. To impart knowledge to prepare accounts for partner admission, Revaluation account, Partner's capital accounts and balance sheet. 3. To embed the students to prepare accounts for retirement of partners, Revaluation of Assets and Liabilities, Capital Accounts and Balance Sheet.	1. Students are aware about partnership accounts and various Accounting Treatments. 2. Students can familiar with accounts for Admission of Partner, Partner's Capital Accounts and Balance Sheet. 3. Students become knowledgeable on calculation of Gaining ratio, Adjustments regarding partner's Capital Account at the time of Retirement of a Partner
Major Paper	III	Business Laws	1. To gain knowledge about the law relating to Business activities 2. To gain knowledge law relating to Contract 3. To gain knowledge law relating to Bailment, pledgement and Agency	1. Knowledge about the basics of Law and to know about the meaning of contract 2. Knowledge about the Principle and Practices of law relating to contract. 3. Knowledge about the law relating to Bailment, pledgement and Contract of Agency
Allied Paper	III	Business Communication	1. To know the basics of communication 2. To understand various types of communication 3. To know how to prepare various reports	1. Understands the basics of communication 2. Knowledge about different types of communication. 3. Through knowledge on report writing
Non Major	IV	Stock Exchange Practices	1. To learn the valuation of securities. 2. To understand the speculation.	1. They learned the valuation of securities. 2. They understood the speculation.

			3.To know about facilitates liquidity	3.They knowledge about facilitates liquidity
Major Paper	IV	Cost Accounting	1.To understand the basic cost concept. 2. To learn the methods & techniques of cost. 3. To know about how to find out process costing.	1.They understood the basic cost concept. 2. They learned the methods & techniques of cost. 3. They knowledge about how to find out process costing.
Major Paper	IV	Banking Theory Law & Practice	1. To know about customer & banker relationship. 2. To understand the types of accounts. 3. To learn the recent trends in banking.	1. They knowledge about customer & banker relationship. 2. They understood the types of accounts. 3. They learned the recent trends in banking.
Allied Paper	IV	Company Law & Secretarial Practice	1. To know about the procedure to form a company. 2. To learn the document of a company. 3. To understand the procedures of wind up of a company	1. They knowledge about the procedure to form a company. 2. They learned the document of a company. 3. They understood the procedures of wind up of a company.
Non Major	IV	International Business	1.To know the foreign economic 2.To learn the concept of international economic system. 3.To understand the marketing strategy.	1.They are knowledge the foreign economic 2.They are learned the concept of international economic system. 3.They understood the marketing strategy.
Skill Based	IV	Introduction to Office Management.	1.To learn concept of office management. 2.To know about flow of work. 3.To understand the maintain coordination.	1.They are learned concept of office management. 2.They are knowledge about flow of work. 3.They understood the maintain coordination.
Major Paper	V	Corporate Accounting	1. To enable the students to know about accounting procedure in corporate Accounting 2. To make learner to understand format of company final accounts and various schedules of company final accounts. 3. To make learner to acquaint information of buy-back of shares and their legal Formalities.	1. To make learner to understand format of company final accounts and various schedules of company final accounts. 2. To make learner to acquaint information of buy-back of shares and their legal Formalities 3. To acquaint learner with various methods and techniques of amalgamation
Major Paper	V	Auditing	1. To introduce the concept of auditing 2. To study about vouching 3. To assess the valuation and verification of assets and liabilities	1. Student will understand the concept of auditing 2. Describe on vouching 3. Analyse information on audit of computerised Accounting
Major Paper	V	Computer Application in	1. To enable the students to know the importance of computer application in	1. Basics of computer application in business. and Creating and editing of word

		Business (Theory)	business. and MS word 2. To learn Ms Excel 3. To understand computerized accounting particularly Tally	documents, opening, savings and closing documents; and mail merge 2. Accounting of inventories, Budget and controls 3. Day books, Trial balance, final account and Bank Reconciliation Statement
Major Paper	V	Computer Application in Business (Practical)	1. To develop skill on preparation of business letters, bio-data, Table. 2. To create work sheet, Charts, and enclosures. 3. To filter date using Auto filter, and application of accounting and statistical formula.	1. They developed skill on preparation of business letters, bio-data, Table. 2. They created work sheet, Charts, and enclosures. 3. They filtered date using Auto filter, and application of accounting and statistical formula.
Major Paper	V	Management Accounting	1. To understand the concepts of Management Accounting 2. To gain knowledge on fund-flow and cash-flow in business operation. 3. To know the various methods of capital budgeting.	1. Basic knowledge on Management Accounting. 2. Understand the Marginal costing and Variance analysis. 3. Select better Design various types of Budget
Elective Paper	V	Entrepreneurial Development	1. To inculcate students to come up with good entrepreneur, 2. To overcome the problems and challenges from the society, 3. To know the role of small scale industries to obtain the next level of business.	1. To enhance a student to behave as a good businessman, 2. To emancipate the society to be mingled with, 3. To obtain the next level of business value.
Skill Based	V	Office Management Tools	1. To know about how to achievement of goals. 2. To learn optimum use of resources. 3. To understand the minimization of cost.	1. They are knowledge about how to achievement of goals. 2. They are learned optimum use of resources. 3. They understood the minimization of cost.
Skill Based	V	Communication & Interpersonal Skill	1. To learn the importance of interpersonal skill 2. To understand the working relationship communication. 3. To know about role play of work group.	1. They are learned the importance of interpersonal skill 2. They are understood the working relationship communication. 3. They knowledge about role play of work group.
Soft Skill	V	Soft Skill Development	1. To learn the leadership skill. 2. To know about teamwork. 3. To understand the communication skill.	1. They learned the leadership skill. 2. They knowledge about teamwork. 3. They understood the communication skill.
Major Paper	VI	Financial	1. To understand the concept of financial	1. They understood the concept of financial management.

Documents and

		Management	management. 2. To learn the working capital management. 3. To understand the leverage and dividend policy.	2. They learned the working capital management. 3. They understood the leverage and dividend policy.
Major Paper	VI	Income Tax Theory Law and Practice	1. To understand the concept of income tax 2. To find out tax able income from business and profession. 3. To learn the capital gain.	1. They understood the concept of income tax 2. They find out tax able income from business and profession. 3. They learned the capital gain.
Major Paper	VI	Financial Services	1. To learn the types of financial services. 2. To develop knowledge about mutual funds. 3. To understand the types of factoring.	1. They learned the types of financial services. 2. They developed knowledge about mutual funds. 3. They understood the types of factoring.
Elective Paper	VI	Human Resource Management	1. To learn the basics of human resources. 2. To understand the recruitment and selection. 3. To Know about the performance appraisal.	1. They learned the basics of human resources. 2. They understood the recruitment and selection. 3. They Knowledge about the performance appraisal.
Elective Paper	VI	Investment Management	1. To understand the investment process. 2. To learn risk and return on investment. 3. To know about tax savings investment.	1. They understood the investment process. 2. They learned risk and return on investment. 3. They knowledge about tax savings investment.
GS	VI	Gender Studies	1. To learn the gender social construct. 2. To understand the sexual variability. 3. To know about analysis of human interactions.	1. They learned the gender social construct. 2. They understood the sexual variability. 3. They knowledge about analysis of human interactions.

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DEPARTMENT OF COMMERCE

M.COM PROGRAMME OBJECTIVES AND OUTCOMES

Major/ Allied	Programme paper – Title	Semester	Programme Objectives	Programme outcomes
CC	Managerial Economics	1	<ol style="list-style-type: none"> 1.To make the students to realize the usefulness of economic tools, principles & laws in making business decisions. 2. To Offer Expertise & knowledge on the application of economic theories. 3. Allocate resources in various economic situations for effective capacity utilization. 4.Analyse markets and its strategy. 5. Understand about various market forms, pricing methods and objectives. 	<ol style="list-style-type: none"> 1.Understand the methods of Managerial Economics & Theory of the firm. 2. Understand the concept & Analysis of Demand Forecasting. 3. Understand the concept & Analysis of Production function. 4. Describe various market forms and pricing Methods with their objectives. 5.Analyse the resource allocation in various economic levels for effective capacity utilization. 6. Evaluate various market Structure, Strategy and Economic Forecasting
CC	Services Marketing	1	<p>On completion of the course the students can able to understand and gain the knowledge on services marketing and its concept and its various services</p>	<ol style="list-style-type: none"> 1. Students will strong conceptual knowledge in the area of services marketing 2.Student will acquaint knowledge in concept of services marketing in buyer behaviour and awareness. 3. Students will have analytical skills in marketing mix, product strategy and PLC. 5. Students will strong knowledge in banking marketing insurance marketing and transport marketing management. 6. The commerce graduate can understand the tourism and hotel management
CC	Advanced Financial Management	1	<ol style="list-style-type: none"> 1.To enable the students to understand the concepts and application of financial management tools. 2. Understand the fundamentals of financial decision making. 3. Understand the cost of capital in wide aspects & risk return relationship. 	<ol style="list-style-type: none"> 1. Formulate finance Decisions-Considering Risk and Return. 2. Identify and discuss long term and short-term sources of finance. 3. Compute the cost of debt, Equity, Preference, retain earnings and overall cost of Capital. 4. Apply the concept of leverage in financial decision making. 5. Design an Optimal capital Structure of the firm, understanding theories of capital structure and

			<p>4. Elicit knowledge on the theories of Capital Structure and Dividend.</p> <p>5. Impart knowledge on working capital management</p>	<p>dividend.</p> <p>6. Evaluate the concept of Working Capital Management.</p>
CCC	Corporate Law	I	<p>1. To acquaint the knowledge relating to different corporate laws and its importance.</p> <p>2. To familiarize with concepts of IPR, Corporate governance.</p> <p>3. To contribute the ethical development and application of corporate law.</p> <p>4. To construct logical and compelling corporate law discourse.</p> <p>5. To identify the process of SEBI Regulations and its transparency and disclosures</p>	<p>1. The students will be able to understand how law is important in day-to-day life.</p> <p>2. The students will be able to develop the knowledge and skills in the understanding of the general legal framework, and of specific legal areas relating to business.</p> <p>3. The students will get elementary knowledge about process of various legal transactions that occurs in the corporate world.</p> <p>4. The students will be able to identify the process of SEBI Regulations and its transparency and disclosures.</p> <p>5. The students will have wide knowledge about the Environment Protection Act and Consumer Protection Act.</p>
EC	Insurance Management	I	<p>To know the concept and techniques of identifying, measuring and managing insurance policies.</p>	<p>1. Understand the concepts and significance of insurance, principles and kinds of insurance, impact of LPG on insurance industry in India and IRDA regulations for insurance business.</p> <p>2. Acquaint with life insurance and procedure followed for issuing life insurance policies, nominations, assignments, and revival and surrender value and claim settlement procedure for life insurance policies.</p> <p>3. Gain an insight on the nature of fire insurance and to know the procedure for making claims against different kinds of insurance policies.</p> <p>4. Gain an insight on the nature of Marine Insurance and to know the procedure for making claims against different kinds of insurance policies.</p> <p>5. Understand the features of personal accident insurance and general insurance.</p>
CC	Research	II	<p>1. To make the students understand the research</p>	<p>1. Learning the meaning of research, its types.</p>

	Methodology		<p>process</p> <ol style="list-style-type: none"> To identify problem and formulation of hypothesis To impart knowledge for enabling students to develop data analytics To organize and conduct statistical data To prepare a research report 	<ol style="list-style-type: none"> Developing research design and acquiring skills to formulate research problems. Acquiring knowledge of sampling technique and formulating Hypotheses. Upskilling Data construction, collecting techniques and testing their validity and reliability. Developing skills in Processing and analysis of data, applying various statistical tools using software packages
CC	Quantitative Techniques of Business Decision	II	To acquaint the students with the Statistical tools and techniques for managerial decisions.	<ol style="list-style-type: none"> To make the students evaluate different quantitative techniques. The students will be able to take opt decisions in business. The students will have knowledge in statistic and quantitative techniques. The students will be familiar with decision making skills. The students will be able to design new skills in decision making.
CC	Income Tax Law and Practice	II	<p>To make students know the latest Income Tax Law and Practices and to enable them to file Income tax return</p> <ol style="list-style-type: none"> Update of latest on tax arena Offering hands on training on tax administration 	<ol style="list-style-type: none"> Enabling students to file tax returns Providing avenues for employment opportunities in tax filing Grasping the basics and advanced concepts in tax planning in knowledge perspective
CCC	Human Resource Management	II	<ol style="list-style-type: none"> To impart knowledge on the concepts and principles of HRM followed in different types of organization. To know the characteristics of manpower planning To identify the sources of recruitment and selection process To gain knowledge on training To evaluate performance of an employee 	<ol style="list-style-type: none"> Understand the concept of HRM. Identify the need for man power planning. Know the procedures for recruitment and selection. Gain Knowledge about various training programmes. Enhance performance appraisal techniques. Gain Knowledge about settlement about grievances
EC	Organisational Behaviour	II	<ol style="list-style-type: none"> To learn the basic concepts of Organisational Behaviour and its applications in contemporary organizations. To understand how individual- groups and structure have impacts on the organizational 	<ol style="list-style-type: none"> To understand the conceptual framework of the discipline of OB and its practical applications in the organizational set up. To deeply understand the role of individual- groups and structure in achieving

			<p>effectiveness and efficiency.</p> <p>3. To appreciate the theories and models of organizations in the workplace.</p> <p>4. To creatively and innovatively engage in solving organizational challenges.</p> <p>5. To learn and appreciate different cultures and diversity in the workplace</p>	<p>organizational goals effectively and efficiently.</p> <p>3. To critically evaluate and analyse various theories and models that contributes in the overall understanding of the discipline.</p> <p>4. To develop creative and innovative ideas that could positively shape the organizations.</p> <p>5. To accept and embrace in working with different people from different cultural and diverse background in the workplace.</p>
NME	Principles of Management	II	<p>1. To expose students to the history of management thought.</p> <p>2. To facilitate students, understanding of their own managerial skills for decision making.</p> <p>3. To Examine the complexity of organization structure for business.</p>	<p>1. Understood the Evolution and theory of Management,</p> <p>2. developed the students to take decisions in various fields.</p> <p>3. get a knowledge about various organization structure and its responsibility.</p>
CC	Advanced Corporate Accounting	III	<p>1. To enable the students to have a comprehensive practice in the preparation of corporate accounts</p> <p>2. To familiarize with the provisions of Companies Act that are suitable to corporate sector.</p> <p>3. To acquaint with the knowledge relating to Holding Company Accounts along with the accounting standards.</p> <p>4. To able to construct the accounting process relating with liquidation process.</p> <p>5. To elaborate the knowledge relating principles and provisions relating to banking and insurance companies</p>	<p>1. The students will be able Construct the financial statements of company within the frame work of Ind AS 2</p> <p>2. The students will be able to devise a plan for reconstruct the capital structure in the financial statement of Joint stock company Ltd.</p> <p>3. The students will be able to determine how the companies are analysed at the time of Merger and Acquisition and its accounting procedures</p> <p>4. The students will familiarize about the concepts and the legal requirements related to presentation of accounts by a holding company</p> <p>5. The students will be able to justify the outstanding claims against the Company and satisfy those claims in the manner and order prescribed by law.</p> <p>6. The students will be to elaborate the various principles, provisions that govern the banking and insurance companies and how the Human resources are maintained in an organization in order to achieve cost effective organizational objectives</p>
CC	Information	III	<p>1. To introduce Evolution, Classification and</p>	<p>1. Know Evolution, Classification and Applications of Computers</p>

	Technology Concepts		<p>Applications of Computers</p> <ol style="list-style-type: none"> To know Computer peripherals To learn about Software, Programming Language, Word Processing and Spread Sheets Presentation To study Data Communication and BDP To aware Computerized Accounting 	<ol style="list-style-type: none"> Understand Computer peripherals Have knowledge on Software, Programming Language, Word Processing and Spread Sheets Presentation Do Data Communication and BDP Aware Computerized Accounting
CCC	Brand Management	III	<ol style="list-style-type: none"> To understand concept of brand. To gain expert knowledge in the Brand positioning. To have the basic knowledge of Brand Image. To gain Knowledge about Brand valuation. To create awareness about Brand Portfolio Management. 	<ol style="list-style-type: none"> Branding challenges & opportunities. Strategies for positioning the brand for competitive advantage Managing Brand image Implications for buying & selling brands. Co-branding & Licensing Brands.
EC	Project Management	III	<ol style="list-style-type: none"> To make them understand the concepts of Project Management for planning to execution of projects. To make them understand the feasibility analysis in Project Management and network analysis tools for cost and time estimation. To enable them to comprehend the fundamentals of Contract Administration- Costing and Budgeting. Make them capable to analyse- apply and appreciate contemporary project management tools and methodologies in Indian context. 	<ol style="list-style-type: none"> Understand project characteristics and various stages of a project. Understand the conceptual clarity about project organization and feasibility analyses: Market- Technical- Financial and Economic. Analyse the learning and understand techniques for Project planning-scheduling and Execution Control. Apply the risk management plan and analyse the role of stakeholders.
NME	Managerial Skill	III	<ol style="list-style-type: none"> To enable the students to maximize the profit. To manage the quality control. To enhance the promote personal development. 	<ol style="list-style-type: none"> They are enabled the students to maximize the profit. They are managed the quality control. They are enhanced the promote personal development.
CC	Strategic Management	IV	<ol style="list-style-type: none"> Enable students to understand the principles of strategy Build Knowledge on formulation, implementation and control in organization Develop Knowledge to apply these concepts in developing the solution to business problems Import knowledge on evaluating the decisions 	<ol style="list-style-type: none"> knowledge on basic concepts of strategy and levels of strategy. Understand the strategic options and formulate realistic strategies to formulate vision mission and analyse a firm's internal strengths and weaknesses based on available resources and capabilities using various techniques. Develop Knowledge on firm's external environment including

			based upon the basic / strategic situation 5. To help participants develop skills for applying these concepts to the solution of business problems.	competitive forces in the industry environment, forces in the macro environment, and competitors 4. Demonstrate the knowledge on the strategic approaches to manage a business successfully in a firm with a sustainable competitive advantage. 5. Evaluate the challenges faced by managers in implementing and evaluating strategies based on the nature of business and industry
CC	Advanced Cost and Management Accounting	IV	1. To enhance the abilities of learners to develop the concept of Cost and management accounting and its significance in the business 2. To enable the learners to understand- develop and apply the techniques of costing in the decision making in the business corporates 3. To enable the learners in understanding- developing- preparing and presenting the financial report in the business corporates 4. To acquaint with the knowledge relating to budgetary control and its concepts 5. To understand the various costing technique that are useful for the company's financial activities.	1. Understand the basis of conventional and contemporary costing systems 2. Determine the costs of products and services 3. Critically analyse relevant costs and provide recommendations for decision making 4. Prepare plans and budgets and analyse variances from standard cost to pinpoint areas that need control
EC	Entrepreneurs hip Development	IV	To enable the students to understand the concept of Banking and entrepreneurial development, financial assistance by bank, govt and make them to become entrepreneurs.	1. To offer the students to understand the basic knowledge of entrepreneurship. 2. To understand the EDP practices and preparation of project report. 3. To familiarise in project market information, sources and financial problems. 4. To explain the finance to trade. 5. To describe the importance various organisations involved in entrepreneurial growth.

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S.no	Name of the course	Objective	Outcomes
1	Differential calculus and trigonometry	<p>To inculcate what a derivative is in terms of the idea of a tangent line to the graph of a function, how a derivative can be used to describe the rate of change of one quantity with respect to another, and how to relate the geometric ideas to the analytic ideas.</p> <ul style="list-style-type: none"> To understand intuitive explanation of the process of taking a limit, to compute basic limits of functions and understand the importance of limits to the process of differentiation and be able to compute the derivative of a simple function. To know continuity as related to functions and able to relate an intuitive notion of continuity to the mathematical definition of continuity, to compare and contrast the ideas of continuity and differentiability. To recognize and use the vocabulary of angles (including standard position, initial and terminal sides, quadrantal angles, acute, right, and obtuse angles) To know the usage of right triangles to evaluate the six trigonometric functions To compute the six trigonometric functions of any angle and use the unit circle to define the six trigonometric functions for all real numbers. 	<ul style="list-style-type: none"> Explain the relationship between the derivative of a function as a function and the notion of the derivative as the slope of the tangent line to a function at a point. Compare and contrast the ideas of continuity and differentiability. Find maxima, minima, critical points and inflection points of functions and to determine the concavity of curves. Convert angles from degrees to radians and vice versa. Compute the length of a circular arc given the radius and the interior angle. Understand the definitions of the inverse trigonometric functions, compute the domain and range of the hyperbolic and inverse trigonometric functions and to find exact values of composite functions with inverse trigonometric functions.
2	Integral calculus and fourier series	<ul style="list-style-type: none"> To get exposed to the concepts of reduction formulae and Fourier series. To apply double and triple integral to find the area and volume. To understand the concepts of Beta and Gamma functions and their applications. 	<p>Derive reduction formula and thereby evaluate some standard integrals.</p> <ul style="list-style-type: none"> Explain the properties of Beta and Gamma functions and apply it to compute the integral. Identify odd and even functions and determine Fourier series expansion of these given functions. Apply change of variable method to evaluate double integral. Utilize double and triple integral to compute area and volume of a solid.

3	Allied-physics-I	<p>To know the elastic nature of materials, analyze the expression for Young's modulus and comprehend about viscosity and surface tension of fluids.</p> <ul style="list-style-type: none"> • To acquire knowledge of the centre of gravity, states of equilibrium of rigid bodies and stability of floating bodies. • To understand the laws of thermodynamics, thermal conductivity and blackbody radiation • To familiarize the concepts of interference and diffraction. • To know the formation, characteristics and applications of diodes and transistors. 	<p>Apply the concepts of elasticity, viscosity and surface tension to solve problems encountered in everyday life.</p> <ul style="list-style-type: none"> • Understand the centre of gravity, states of equilibrium of rigid bodies and also stability of floating bodies. • Understand the laws of thermodynamics, thermal conductivity and black body radiation. • Understand the theories and experiments on interference and diffraction using air wedge, Newton's ring and grating. • Know the formation, characteristics and applications of diodes and transistor.
4	General-value education	<p>To understand the philosophy of life and values through Thirukural</p> <ul style="list-style-type: none"> • To analyse the components of values education to attain the sense of citizenship • To understand different types of values towards National Integration and international understanding • To learn yoga as value education to promote mental and emotional health • To understand human rights, women rights and other rights to promote peace and harmony 	<p>Apply the values in thirukural to be peaceful, dutiful and responsible in family and society</p> <ul style="list-style-type: none"> • Develop character formation and sense of citizenship • Be secular, self-control, sincere, respectful and moral. • Master yoga, asana and meditation to promote mental health • Be attitudinal to follow the constitutional rights

Semester-II

S. No	Name of the Course	Objective	Outcomes
1	Differential equations	<p>To know the order and degree of the ODE's.</p> <ul style="list-style-type: none"> • To study DEs and PDEs of first and second order. • To identify some specific methods and solve them. • To make difference between ODE and PDE. • To know some standard methods. 	<p>Solve first-order ordinary differential equations. • Solve higher order differential equations.</p> <ul style="list-style-type: none"> • Solve the Higher order differential equations using methods of variation of parameter. • Solve partial differential equations using Lagrange's Method.
2	Analytical geometry 3d	<p>To study three dimensional Cartesian Co-ordinates system.</p> <ul style="list-style-type: none"> • To enable the students to develop their skill in three dimensions 	<p>Gain knowledge about the regular geometrical figures and their properties.</p> <ul style="list-style-type: none"> • Analyze condition of tangency and find the tangent plane to the sphere. • Examine the condition for the general equation of the cone.

			<ul style="list-style-type: none"> • Understand the concept of quadric cone and its properties. • Acquire the basic knowledge of tangents and conicoid.
3	Allied-Physics ii	<p>To understand the Coulomb's law and Gauss theorem and to gain a brief knowledge of capacitors.</p> <ul style="list-style-type: none"> • To acquire the knowledge on properties, types of magnetic materials and hysteresis of ferromagnetic material. • To know atom models and understand the properties, types of x-rays and Crystal structure. • To study the basics of nucleus and their properties, nuclear reaction, nuclear models and elementary particles. • To learn the binary number system, binary arithmetic operations, logic gates and DeMorgan's theorem. 	<p>Understand Coulomb's law, Gauss theorem and gain a brief knowledge of capacitors.</p> <ul style="list-style-type: none"> • Understand the properties, types of magnetic materials and hysteresis of ferromagnetic material. • Acquire the knowledge of atom models and X rays. • Know the basics of nucleus and their properties, nuclear reaction, nuclear models and elementary particles. • Learn the binary number system, binary arithmetic operations, logic gates and De-Morgan's Theorem.
4	General-environmental studies	<p>To appreciate the scope of Environmental Studies, Community ecology and the interdisciplinary nature of environmental issues</p> <ul style="list-style-type: none"> • To have a basic knowledge of Natural resources its classification, concepts, and natural resources of India. • The course designed to gain knowledge on values of biodiversity and conservation on global, national, and local scales • To study about sources and effects of environmental pollution like air, water, soil, thermal, marine, nuclear and noise • To understand the concerns related to Sustainable Development on environment and health • To introduce the students in the field of Law and Policies and Acts both at the national and international level relating to environment. 	<p>Understand the environmental importance including interactions across local to global scales.</p> <ul style="list-style-type: none"> • The learners to update and analyze environmental relationships and interactions of environmental components • The student to gain knowledge on importance of natural resources in a systematic way. • The course content is introduce the concept of renewable and non-renewable energy resources and its scenario in India and at global level • The students will know the relationship between biodiversity and ecosystem functions, direct and indirect values of biodiversity resources and their bioprospecting opportunities. • The learners can gain awareness related on environmental pollution, causes and pollution control with case studies. • Student to obtain the environmental ethics and gain knowledge about the sustainable development. • Learners should realize the environmental legislation and policies of national and international regime and know the regulations applicable to industries and other organizations with significant Environmental aspects
5.	PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES-I	<p>To develop the language skills of students by offering adequate practice in professional contexts.</p> <ul style="list-style-type: none"> • To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students • To focus on developing students' 	<p>Recognise their own ability to improve their own competence in using the language</p> <ul style="list-style-type: none"> • Use language for speaking with confidence in an intelligible and acceptable manner • Understand the importance of reading for life

	<p>knowledge of domain specific registers and the required language skills.</p> <ul style="list-style-type: none"> • To develop strategic competence that will help in efficient communication • To sharpen students' critical thinking skills and make students culturally aware of the target situation. 	<ul style="list-style-type: none"> • Read independently unfamiliar texts with comprehension • Understand the importance of writing in academic life • Write simple sentences without committing error of spelling or grammar
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SEMESTER-III

S. No	Name of the Course	Objective	Outcomes
1	Sequences and Series	1. To lay a good foundation for classical analysis 2. To study the behavior of sequences and series.	Know the foundation of Theory of Equations. • Applying the skills to solve problems in operative algebra.
2	Classical Algebra and Theory of Numbers	1. To lay a good foundation for the study of Theory of Equations. 2. To train the students in operative algebra.	Determine if an infinite sequence is bounded. • Determine if an infinite sequence is monotonic. • Determine if an infinite sequence is convergent or divergent. • Find the sequence of partial sums of an infinite series. • Determine if a geometric series is convergent or divergent. • Find the sum of a convergent geometric series. • Determine if an infinite series is convergent or divergent by selecting the appropriate test. • Determine if an infinite series converges absolutely or conditionally.
3	Second Allied Course – I Chemistry	1. To understand the various theories of coordination chemistry. 2. To study the various concepts of resonance and halogen compounds. 3. To study the properties of aromatic compounds and organic reactions. 4. To learn the concepts of solid state chemistry.	1. To describe structure and functions of biologically important coordination compounds. 2. To apply eletromeric and resonance effect to predict reactivity and stability of organic compounds 3. To classify the drugs based on their mode of actions. 4. To predict conditions for spontaneous and non-spontaneous reactions. 5. To calculate Gibb's free energy, work function and entropy of a reaction 6. To determine order of chemical reactions
4	Non Major Elective I Basic of Tourism	1. To know the definition and concepts of tourism 2. To understand the types of tourism 3. To analyse the components of tourism	Interpret and evaluate tourism as a phenomenon and as a business system. Explain the diverse nature of tourism, including culture and place, global/local perspectives, and experience design and provision. Identify and assess relationships and networks relative to building tourism capacity.

S.	Professional English- Semester-II	<p>Develop their competence in the use of English with particular reference to the workplace situation.</p> <ul style="list-style-type: none"> • Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace. • Develop their competence and competitiveness and thereby improve their employability skills. • Help students with a research bent of mind develop their skills in writing reports and research proposals. 	<ul style="list-style-type: none"> • Attend interviews with boldness and confidence. • Adapt easily into the workplace context, having become communicatively competent. • Apply to the Research & Development organisations' sections in companies and offices with winning proposals.
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SEMESTER-IV

S. No	Name of the Course	Objective	Outcomes
1	Vector Calculus and Fourier Series	To provide the basic knowledge of vector differentiation & vector integration. To solve vector differentiation & integration problems.	<p>Learn the basic knowledge of vector differentiation and vector integration</p> <ul style="list-style-type: none"> • Solve vector differentiation and integration problems. • Introduce the basic concepts of Laplace Transforms. • Solve a differential equation by using Laplace Transforms
2	Linear Algebra	<ol style="list-style-type: none"> 1. To facilitate a better understanding of vector space 2. To solve problems in linear algebra 	<p>Define basic concepts of vector spaces, linear transformations, inner product spaces.</p> <ul style="list-style-type: none"> • Prove standard theorems in Linear Algebra • Distinguish linear independence and dependence; singular and nonsingular linear transformations; quadratic and diagonal forms. • Determine basis and dimension of vector space, orthogonal basis, eigen values, eigen vector and posets. • Construct orthonormal basis from a given basis; to reduce a quadratic form to diagonal form.
3.	Second Allied Course – II Chemistry	<ul style="list-style-type: none"> • To learn the basics of nuclear chemistry and metallic bond. • To understand the properties and applications of carbohydrates, amino acids and proteins. • To study the basic concepts of polymers, heterocyclic compounds and stereoisomerism. 	<ol style="list-style-type: none"> 1. To explain theory of nuclear chemistry and chemical bonding. 2. To classify carbohydrates and proteins. 3. To synthesise polymers and hetero cyclic compounds. 4. To apply conductivity measurements to determine degree of dissociation of weak electrolyte and pH of buffer solution. 5. To explain preparation and applications of emulsion and gels in chromatography.

4.	Non Major Elective -II Cultural Tourism	1. To know the various types of tourism 2. To study the significance of fairs and festivals performed by the people to the growth of tourism 3. To study the role and functions of tourism organisations	The students will be able to gain knowledge in the Travel agency business and will get awareness about travel industry.
5.	Skill Based Elective – I Introduction to Office Management	One of the major objectives of office management is the optimum utilization of office resources- both human and material". Comment. Offices are those tools of management, which help in managing a business effectively and efficiently. Thus, office management is an essential element of total management of an enterprise.	Improve planning skills in order to prioritise tasks necessary for achieving organisational goals. Coordinate tasks to avoid duplication of work. Establish clear departmental goals and objectives. Develop and strengthen relationships with staff through improved communication techniques and emotional intelligence.

SEMESTER-V

S.No	Name of the Course	Objectives	Outcomes
1.	Numerical Methods with MATLAB Programming	Introduce students to the world of programming through numerical techniques. Introduce students to MATLAB programming techniques. Use MATLAB programming to solve numerical problems.	Gain an understanding of the fundamentals of computer arithmetic such as machine precision, rounding errors, approximating derivatives using different finite differences, and using numerical techniques such as bisection and Newton's method to solve non-linear equations.
2.	Real Analysis	Learn about real numbers and countable numbers in real numbers system. Give a comprehensive view of the real numbers system. Learn about Continuity, Difference and the Riemann integral. Learn about Rolle's Theorem and use Rolle's theorem.	Explain the fundamental properties of real numbers which serve as the foundation for real analysis's formal study. Demonstrate your understanding of differentiation, integration, continuity, sequence and series theory.
3.	Statics	To give learners an elementary awareness of particle equilibrium. To acquire practical expertise in order to solve issues in real life.	The course deals the study of internal and external forces in a structure. <ul style="list-style-type: none"> • Provide the basic knowledge of Equilibrium of a particle. • Develop a working knowledge to handle practical problems.
4.	Operations Research	To present the different operations research approaches, and force students to tackle real-world business and management issues	Determine the most effective course of action for minimizing the cost of product shipping from the point of origin to the destination, maximizing the profits from product shipping using a variety of techniques, and identifying the first fundamentally sound, practical, and ideal solution to the

			transportation difficulties.
5.	Skill Based Elective – II Communication Interpersonal Skill	<ul style="list-style-type: none"> • Enhance the students' productive and receptive skills of the English language. • Consolidate and complete the knowledge of grammar pertaining to the fields of transport, accommodation and catering. • Master English for Occupational Purposes (EOP) and English for Tourism Purpose (ETP). • Perform confidently in a job interview. • Resolve difficult customer service situations. • Communicate fluently with more confidence with foreign colleagues, organizations and clients in a wide range of real-world professional contexts. 	<ul style="list-style-type: none"> • Communicate effectively, in the target language, concepts concerning the tourist industry. • Use the acquired knowledge of English language skills, solve problems related to touristic and territorial environment. • Deal with the public, preparing tours and events, management of planning, statistics and forecasting, and advertising. • Possess vibrant interpersonal qualities. • Develop appropriate learning skills to enable autonomous decision making. • Assist international visitors and promote their services.
6.	Skill Based Elective – III Office Management Tools	<p>of the major objectives of office management is the optimum utilization of office resources- both human and material. Comment. Offices are those tools of management, which help in managing a business effectively and efficiently. Thus, office management is an essential element of total management of an enterprise</p>	<p>Improve planning skills in order to prioritise tasks necessary for achieving organisational goals. Coordinate tasks to avoid duplication of work. Establish clear departmental goals and objectives. Develop and strengthen relationships with staff through improved communication techniques and emotional intelligence.</p>
7.	Soft Skills Development	<p>Today's world is all about relationship, communication and presenting oneself, one's ideas and the company in the most positive and impactful way. This course intends to enable students to achieve excellence in both personal and professional life.</p>	<p>Develop listening, speaking, reading and writing skills in English.</p> <ul style="list-style-type: none"> • Enhance soft skills and engage in a range of communicative tasks and activities • Comprehend a text and identify specific and global information • Promote communicative ability in both spoken and written form of the language • Develop interpersonal skills to maintain human relationship • Develop corporate skills to promote leadership qualities and team spirit.

SEMESTER-VI

S.No	Name of the Course	Objectives	Outcomes
1.	Abstract Algebra	1. To introduce the concept of Algebra from the basic set theory and Functions, etc. 2. To introduce the concept of Group theory and Rings.	Demonstrate the abstract structures of algebra <ul style="list-style-type: none"> • Prove standard theorems of groups and rings • Check irreducibility of polynomial and verify whether a function is an isomorphism or not • Determine cosets, automorphism, kernel, maximal and prime ideals • Develop examples of groups and rings with specific criterions. • Students will be able to determine whether a given group is abelian by checking the properties • Prove that a given subset of a group is a subgroup by applying the properties. • Describe all elements in a cyclic subgroup by using generators.
2.	Complex Analysis	1. Understand the functions of complex variables, continuity and differentiation of complex variable functions, $C - R$ equations of analytic functions. 2. Learn about elementary transformation concepts in complex variable. 3. Know about complex Integral functions with Cauchy's Theorem, power series expansions of Taylor's and Laurant's series. 4. Understand the singularity concepts and residues, solving definite integrals using the residue concepts.	Becoming familiar with the concepts Complex numbers and their properties and operations with Complex number. <ul style="list-style-type: none"> • Finding domain and range of complex functions and sketching their graphs. • Evaluating limits and checking the continuity of complex function. • Checking differentiability and Analyticity of functions. • Evaluate Complex integrals and applying Cauchy integral.
3.	Dynamics	1. To provide a basic knowledge of the behavior of objects in motion. 2. To develop a working knowledge to handle practical problems.	Acquire knowledge about the basic concepts of kinematics. <ul style="list-style-type: none"> • Analyze the motion of Projectiles and their results. • Critique the concepts of Central Orbits, differential equation of a central orbit.
4.	Graph Theory	1. To introduce the notion of graph theory and its applications. 2. To learn the techniques of combinatorics in Graph Theory.	To understand and apply the fundamental concepts in graph theory. <ul style="list-style-type: none"> • To apply graph theory based tools in solving practical

			<p>problems</p> <ul style="list-style-type: none"> • To understand the trees • The students will be able to know the planarity. • To explain the Kruskal's algorithm and Dijkstra's algorithm.
5.	Astronomy	<p>1. To introduce the exciting world of astronomy to the students. 2. To help the students to study spherical trigonometry in the field of astronomy. 3. To understand the movements of the celestial objects.</p>	<ul style="list-style-type: none"> • The Learner will acquire basic knowledge about morning, evening stars, circumpolar stars. • Solve the problems with scientific reasoning and critical thinking skills. • Calculation to prepare calendar and conservation of time.
6.	Gender Studies	<p>To make boys and girls aware of each others strengths and Weakness. To develop sensitivity towards both genders in order to lead an ethically enriched life. To promote attitudinal change towards a gender balanced ambience and women empowerment .</p>	<ul style="list-style-type: none"> • Students would have gained a perspective and understood the social reality of gender society understood the differences of gender and sex and may resort to building alternative perspectives and critical thinking. • Gained knowledge on the various social institutions governing gender and the intersectionality. • Exposed to the kind of initiatives of the State towards gender equality

M.Sc . MATHEMATICS

I SEMESTER

S.N O	NAME OF THE COURSE	OBJECTIVES	OUTCOMES
1.	Algebra	<p>To give foundation in Algebraic structures like Groups ,Rings</p> <ul style="list-style-type: none"> • To train the students in problem solving in Algebra 	<p>Gain expertise in the basic concepts of group theory with the help of numerous examples.</p> <ul style="list-style-type: none"> • Discuss in detail about permutation groups and Normal subgroups and discuss on counting tricks in algebra. • Bring out the key steps involved in proving Sylow theorems and use Sylow's theorems to classify groups of finite order upto 120. • Learn the fundamental concept in field theory of field extensions and would see the idea of generating new fields. • Have clear cut idea in the notions of Galois groups, normal extensions and separable extensions and illustrate them with various examples. • Able to understand the Fundamental theorem of Galois theory.

2.	Real analysis	To enable the students to learn the basic concepts of Real Analysis and techniques in Analysis to prepare for the advanced courses like Functional Analysis and Advanced Analysis.	Describe fundamental properties of the real numbers that lead to the formal development of real analysis. <ul style="list-style-type: none"> • Demonstrate an understanding of limits and how that are used in sequences • Demonstrate an understanding of limits and how that are used in series. • Demonstrate an understanding of limits and how that are used in sequences Examine and recognize the continuity of real functions. • Demonstrate an intuitive and computational understanding of set theory, Continuity and solving application problems. This will be assessed through homework, class quizzes and tests, and a final exam.
3.	Ordinary differential equation	To give an in-depth knowledge of differential equations and their applications. <ul style="list-style-type: none"> • To study the existence, uniqueness, stability behavior of the solutions of the ODE. 	1. Find the general solution of the first order linear homogeneous equations. 2. Understand the utility of the theory of power series which is studied in Real Analysis course through solving various second order differential equations. 3. Get introduced to the Hypergeometric functions which arises in connection with solutions of the second order ordinary differential equations with regular singular points. 4. Solve the problems arises in Mathematical physics using properties of special functions. 5. Understand the importance of studying well-posedness of the problem namely existence, uniqueness and continuous dependence of first order differential equations through Picard's theorem. 6. Understand the utility of the concepts from linear algebra and analysis in the study of system of first order equations. 7. Discuss the Qualitative properties of solutions of first and second order equations. Also they will be able to work on numerous problems using comparison theorem in Sturm Liouville problems. 8. Learn the nature of solutions which involves critical points and phase portrait of nonlinear equations.
4.	Graph Theory	1. To give a rigorous study of the basic concepts of Graph Theory. 2. To study the applications of Graph Theory in other disciplines	Understand and work on the fundamental concepts of graphs. <ul style="list-style-type: none"> • Apply graph theory based tools in solving practical problems. • Understand basic concepts in Trees and discuss matching problems and its applications elsewhere. • Comprehend and work on the concepts of planarity and discuss the dual of a plane graph.
5.	Classical dynamics	To give a detailed knowledge of the mechanical system of particles.	Understand the important definitions and introductory concepts like the ideas of virtual work and d'Alembert's principle.

		<ul style="list-style-type: none"> • To study the applications of Lagrange's and Hamilton's equations. 	<ul style="list-style-type: none"> • Derive Lagrange's equations of motion using d'Alembert's principle. • Understand the nature of equations of motion for holonomic and nonholonomic systems. • Understand the idea of impulsive constraints. • Compare dissipative systems and velocity dependent potentials. • Understand the Hamiltonian view point of dynamics in canonical equations of motion and phase space. • Understand the concepts of Hamilton - Jacobi theory. • Obtain some concrete procedure for solving problems using the theory of canonical transformations.
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II SEMESTER

1.	Complex Analysis	<p>To learn the various intrinsic concepts and the theory of Complex Analysis.</p> <ul style="list-style-type: none"> • To study the concept of Analyticity, Complex Integration and Infinite Products in depth. 	<p>Understand the complex number system from geometric view point. Will gain mastery in arguments on \mathbb{C}^* and logarithms.</p> <ul style="list-style-type: none"> • Get expertise in the concept of convergence of sequences and series of complex numbers, continuity and differentiability of function on complex numbers. Also the students will be able to thoroughly understand and know the importance of power series in complex analysis. • Work out the path integrals on the complex plane. • Understand the central theme of Cauchy theory, viz., existence of local primitives and local power series expansion. • Get acquainted with various techniques of proving fundamental theorem of algebra, open mapping theorem, maximum modulus theorem and Liouville's theorem. • Classify singularities, compute poles and residues and understand the Laurent series expansion. • Appreciate and work on the topology of extended complex plane.
2.	Linear Algebra	<p>To give the students a thorough knowledge of the various aspects of Linear Algebra</p> <ul style="list-style-type: none"> • To train the students in problem-solving as a preparatory for competitive exam. 	<p>Realise that the subject evolves as a generalization of solving a system of linear equations.</p> <ul style="list-style-type: none"> • Discuss in detail the basic concepts of Linear dependence, basis and dimension of a vector space. The students will be able to demonstrate how the geometric ideas turn into rigorous proofs. • Master the dimension formula and rank and nullity theorem

			<p>which are often exploited.</p> <ul style="list-style-type: none"> • Capture the idea of producing lot of structure preserving maps (Linear transformations). Further the study of algebras of linear maps would be accomplished • Having got trained in numerous examples the student realizes the isomorphic theory of linear transformations and matrices.
3.	Partial Differential Equations	<p>To give an in-depth knowledge of solving partial differential equations and apply them in scientific and engineering problems.</p> <ul style="list-style-type: none"> • To study the other aspects of PDE. 	<p>Classify first order partial differential equations and their solutions.</p> <ul style="list-style-type: none"> • Solve first order equations and nonlinear partial differential equations using various methods. • Use the method of characteristics to solve first order partial differential equations. • Identify and solve the three main classes of second order equations, elliptic, parabolic and hyperbolic. • Solve one dimensional wave equations using method of separation of variables. • Classify the boundary value problems and analyse its solutions. • Solve Heat conduction problem using Fourier series and cosines. • Illustrate the use of PDE in problems from Engineering and Biological Sciences.
4.	Optimization techniques	<p>To provide insights into structures and processors that operations research can offer and the enormous practical utility of its various techniques.</p> <ul style="list-style-type: none"> • To explain the concepts and simultaneously to develop an understanding of problem solving methods based upon model formulation, solution procedures and analysis. 	<ol style="list-style-type: none"> 1. Do mathematical formulation of a real life problem into a linear programming problem. 2. Solve linear programming problem using graphical method and simplex method. 3. Understand Integer programming problem. 4. Find solutions to linear programming problem by dynamic programming. 5. Understand the concepts of nonlinear programming problems. 6. Solve nonlinear programming problems using Wolfe's method and Beale's method.
5.	Introduction to matlab	<p>To learn features of MATLAB as a programming tool.</p> <ul style="list-style-type: none"> • To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems. 	<ol style="list-style-type: none"> 1. Understand the main features of the MATLAB development environment. 2. Use the MATLAB GUI effectively. 3. Design simple algorithms to solve problems.

		<ul style="list-style-type: none"> To understand MATLAB graphic feature and its applications. To use MATLAB as a simulation tool. 	4. Write simple programs in MATLAB to solve scientific and mathematical problems.
6.	Fundamentals of internet	<ul style="list-style-type: none"> Study the basic concepts of Internet Understand the services provided by the Internet Acquire the knowledge about E-Commerce 	To acquire knowledge about Domain name system <ul style="list-style-type: none"> To understand E-Commerce To know the blogs To understand the fundamentals of social networks To Gain the knowledge about Internet threats

III SEMESTER

1.	Classical Dynamics	1. To give a detailed knowledge of the mechanical system of particles. 2. To study the applications of Lagrange's and Hamilton's equations.	Understand the important definitions and introductory concepts like the ideas of virtual work and d'Alembert's principle. <ul style="list-style-type: none"> Derive Lagrange's equations of motion using d'Alembert's principle. Understand the nature of equations of motion for holonomic and nonholonomic systems. Understand the idea of impulsive constraints. Compare dissipative systems and velocity dependent potentials. Understand the Hamiltonian view point of dynamics in canonical equations of motion and phase space. Understand the concepts of Hamilton - Jacobi theory. Obtain some concrete procedure for solving problems using the theory of canonical transformations.
2.	Measure and Integration	1. To generalize the concept of integration using measures. 2. To develop the concept of analysis in abstract situations.	<ul style="list-style-type: none"> Learn the basic concepts of measure and integration. Comprehend the differences between different types of convergences. Understand the concepts of Classical Banach Spaces Learn completeness and approximation in L^p-spaces. An overview of the central results of the theory of Lebesgue integration.
3.	Topology	1. To study the concepts concerned with properties that are preserved under continuous deformations of objects. 2. To train the students to develop analytical thinking and the study of continuity and connectivity.	1. Study and Understand the concepts of metric spaces, topological spaces 2. Understand the concepts of open bases and open sub bases 3. Understand the concepts of Compactness, connectedness and separation axioms 4. Provide patience to grapple with life outside the campus.

4.	Discrete Mathematics	1. To study the concepts like Boolean algebra, coding theory. 2. To introduce the different notions grammar.	<ul style="list-style-type: none"> • Understand relations and functions and work with them. • Understand functions of logic gates and use it to carry out logical operations on single or multiple binary inputs and give one binary output. • Work with fundamental concepts and basic laws of Boolean algebra.
5.	Advanced operations research	1. To enlighten the students in the field of operations research. 2. To help the students to apply OR techniques in business and management problems.	<ol style="list-style-type: none"> 1. Do mathematical formulation of a real life problem into a linear programming problem. 2. Solve linear programming problem using graphical method and simplex method. 3. Understand Integer programming problem. 4. Find solutions to linear programming problem by dynamic programming. 5. Understand the concepts of nonlinear programming problems. 6. Solve nonlinear programming problems using Wolfe's method and Beale's method.

IV SEMESTER

1.	Functional analysis	1. To study the three structure theorems of Functional Analysis viz., Hahn-Banach theorem, Open mapping theorem and Uniform boundedness principle. 2. To introduce Hilbert spaces and operator theory leading to the spectral theory of operators on a Hilbert space.	<ul style="list-style-type: none"> • Identify Banach spaces and analyse their properties with other types of spaces. • Examine and identify properties of complex Banach spaces- Hilbert spaces. • Apply the analytical techniques and theoretical knowledge in Hilbert Spaces. Findout and determine orthonormal sets. • Explain various properties of Hilbert spaces. • Attain knowledge and experience of working with many pure mathematical problems.
2.	Differential geometry	1. To introduce the notion of surfaces and their properties. 2. To study geodesics and differential geometry of surfaces.	<ul style="list-style-type: none"> • Have a solid understanding of the subjects, linear algebra, multivariable calculus and differential equations and a basic knowledge of theoretical physics. • Sketch and workout graphs, level sets, tangent space and surfaces of given smooth maps. • Good knowledge on calculus of vector fields. • Understand how Gauss map helps to identify the surfaces that are mapped onto the unit n-sphere. • Describe surfaces as a solution sets of differential equations. • Exhibit geodesics on surfaces. • Learn how parametrizations of plane curves can be used to evaluate integrals over the curve. • Compute the Gaussian curvature of various surfaces.
3.	Advanced numerical analysis	1. To know the theory behind various numerical methods. 2. To apply these methods to solve mathematical problems.	<ul style="list-style-type: none"> • Solve algebraic and transcendental equations using various iterative methods and study the rate of convergence of those problems. • Solve System of Linear Algebraic equations using direct methods and indirect methods. • Solve eigen value

			<p>problems and study the error analysis. • Solve algebraic equations and differential equations using the techniques of interpolation like Lagrange Interpolation, Hermite Interpolation etc. • Perform curve fitting using least square approximation. • Find the numerical value of the derivative of various functions using Euler method and Runge-Kutta method. • Calculate the numerical value of a definite integral using methods like quadrature rules in numerical integration. • Identify the suitable numerical method and perform error analysis.</p>
4.	Algebraic topology	<p>1. To introduce the notion of homotopy and covering spaces. 2. To study the Jordan curve theorem.</p>	<p>• Review the basic topological concepts connecting geometry. • Understand quotient topology and how the identification works. • Discuss on the concept of homotopy and homotopy equivalence of topological spaces. • Compute the fundamental groups of standard topological spaces. • Learn thoroughly covering homotopy theorem. • Appreciate and deduce the important Brouwer's fixed point theorem.</p>

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22/12/29

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SRI SARADA NIKETAN COLLEGE OF SCIENCE FOR WOMEN,
KARUR-05
DEPARTMENT OF MICROBIOLOGY
UG PROGRAMME OUTCOMES NOV 2022 – APR 2023

Semester	Major/Allied/N on major/SBE	Title of the Paper	Objectives	Outcomes
I	Major	Basics of Microbiology	<ol style="list-style-type: none"> 1. To understand classification of microorganisms 2. To understand bacterial size, shape and their structure. 3. To understand the concept of microbial control. 	<ol style="list-style-type: none"> 1. Understand the historical Developments in Microbiology. 2. Understand eubacteria, archaebacteria & actinomycetes. 3. Understand systemic classification of microorganisms.
I	Major practical	Basics of Microbiology Practical	<ol style="list-style-type: none"> 1. To operation of all laboratory equipments, 2. To isolation techniques of microorganisms 3. To staining of microbial cells 	<ol style="list-style-type: none"> 1. Understand media preparation methods, 2. Understand pure culture methods to isolate & enumerate microbes. 3. Understand various staining techniques.
I	Allied	Fundamentals of Biological Sciences	<ol style="list-style-type: none"> 1. To gain the basic knowledge about plants and animals. 2. To study the biological concepts of plant & animal evolution 3. To understand the biological sciences' importance to human society. 	<ol style="list-style-type: none"> 1. Gain knowledge about plants and animals on a par with their higher education. 2. Understand the biological concepts of plant and animal evolution 3. Imbibe the biological sciences' importance to human society.
I	VE	Value Education	<ol style="list-style-type: none"> 1. To understand the philosophy of life and values through Thirukural 2. To analyse the components of values education to attain the sense of citizenship 3. To learn yoga as value education to promote mental and emotional health 	<ol style="list-style-type: none"> 1. Understand the philosophy of life and values through Thirukural 2. Analyse the components of values education to attain the sense of citizenship
II	Major	Microbial Physiology	<ol style="list-style-type: none"> 1. To impart among the learners the fundamental principles of microbial physiology. 2. To provide the functions of various organelles of a cell. 3. To highlight the microbial enzymes' profiles & their activity. 	<ol style="list-style-type: none"> 1. Understand the nature of nutrients required by microbes. 2. Learn the macro molecules' classification based on their nutritional needs. 3. Understand the synthesis of macro molecules through metabolism
II	Major Practical	Microbial Physiology Practical	<ol style="list-style-type: none"> 1. To provide the students hands-on practice on the first-line microbial physiology experiments. 2. To educate microbial growth experiments & impacting factors. 3. To provide hands- on experience of microbial cultivations by different methods. 	<ol style="list-style-type: none"> 1. Determine growth stages of a test bacterial species. 2. Evaluate the impact of various external components on the microbial growth. 3. Grow anaerobic bacteria in a conventional microbiology laboratory.

II	Allied	General Biochemistry	<ol style="list-style-type: none"> 1. To provide basic understandings of cell structural compositions. 2. To teach biochemical nature and functions of microbes. 3. To know the biological energy sources and transferring molecules. 	<ol style="list-style-type: none"> 1. Assimilate the basic knowledge of cell structural compositions. 2. Understand biological & chemical nature & functions of cells. 3. Understand the molecules associated with metabolic functional systems
II	Allied Practical	Fundamentals of Biological Sciences & General Biochemistry Practical	<ol style="list-style-type: none"> 1. To understand the plants' tissue anatomical structure. 2. To learn the comparative characteristic features of vegetative nature. 3. To study the morphological differences among microbes using microscopes. 4. To isolate the endophytic microorganisms from medicinal plants. 	<ol style="list-style-type: none"> 1. Acquire a knowledge on specimen preparation from plant samples 2. Practice handling of microscopes. 3. Learn molecules' separation techniques 4. Derive the pigmentation profiles of microbes/ plants
II	Add on Course -I	Professional English -I	<ol style="list-style-type: none"> 1. To develop the language skills of students by offering adequate practice in professional contexts. 2. To develop strategic competence that will help in efficient communication 3. To enhance the lexical, grammatical and socio-linguistic 	<ol style="list-style-type: none"> 1. Develop the language skills of students 2. Develop their communication skills 3. Learn the lexical, grammatical and socio-linguistic
II	EVS	Environmental Science	<ol style="list-style-type: none"> 1. To learn about Multidisciplinary nature of environmental studies 2. To know Water Resources, Natural Resources. 	<ol style="list-style-type: none"> 1. Learn about Multidisciplinary nature of environmental studies 2. Gather knowledge about Water Resources, Natural Resources .
III	Major	Immunology	<ol style="list-style-type: none"> 1. To learn about the types of immunity, immune system, antigen, antigen anti-body reaction, hyper sensitivity reaction 2. To learn immune deficiency disorders and concept of auto and transplantation of immunity. 	<ol style="list-style-type: none"> 1. Understand the types of immunity & immune system 2. Improve their knowledge in antigen antibody reactions 3. Learn the immune deficiency disorders & concepts of auto & transplantation of immunity.
III	Allied	Biostatistics	<ol style="list-style-type: none"> 1. To find numerical solutions to scientific data 2. To analyze and interpret scientific data using numerical and mathematical equations 	<ol style="list-style-type: none"> 1. Learn the numerical solutions 2. Develop interpret scientific data using numerical and mathematical equations
III	Non Major	Basics of Tourism	<ol style="list-style-type: none"> 1. To know the definition concepts of tourism. 2. To understand the types of tourism 3. To analyze the components of tourism 	<ol style="list-style-type: none"> 1. Learn definition of tourism and its types 2. Understand the components of tourism
IV	Major	Introductory Virology	<ol style="list-style-type: none"> 1. To make the student and learn about the structure of viruses. 2. To learn classification, morphology, Pathological importance of viruses and viral diseases. 	<ol style="list-style-type: none"> 1. Acquire a knowledge on structure of viruses 2. Learn the classification, morphology, pathological importance of viruses.

IV	Allied	Bioinformatics and computer in Biology	<ol style="list-style-type: none"> 1. To obtain basic knowledge about computers and internet. 2. To study of the inherent structure of biological information. 3. To analyze the gene and protein sequences to reveal protein evolution. 	<ol style="list-style-type: none"> 1. Collect knowledge about computers and internet. 2. Learn the inherent structure of biological information. 3. Analyze the gene sequence.
IV	Major Practical	Immunology & Introductory Virology Practical	<ol style="list-style-type: none"> 1. To learn about the immune techniques 2. To obtain basic knowledge of blood grouping & agglutination 3. To Isolate the Bacteriophage from sewage 	<ol style="list-style-type: none"> 1. learn the immune techniques 2. Gather the knowledge about blood grouping & agglutination test.
IV	Allied Practical	Biostatistics & Bioinformatics Practical	<ol style="list-style-type: none"> 1. To study of nucleic acid sequence data bank 2. To find Mean, Mode, Median, Co-efficient of variance using biological materials. 3. To derive standard deviation using SPSS programme 	<ol style="list-style-type: none"> 1. Study the nucleic acid sequence data bank like NCBI 2. Gather knowledge about statistical problems in biological materials 3. Derive standard deviation using SPSS programme
IV	Non Major	Cultural Tourism	<ol style="list-style-type: none"> 1. To learn geography of tourism 2. To discuss major tourism & future of tourism 	<ol style="list-style-type: none"> 1. Learn about geogrophy & cultural of India 2. Gather knowledge about major tourism & future of tourism
IV	Skill Based	Introduction to Office Management	<ol style="list-style-type: none"> 1. To learn about departments of office & categories of the job 2. To study about the parts of computers. 	<ol style="list-style-type: none"> 1. Learn departments of office & categories of the job 2. Study about the parts of computers.
V	Major	Medical Microbiology	<ol style="list-style-type: none"> 1. To impart the knowledge of medically important human diseases with respect to their causative agent, clinical symptoms, pathogenesis 2. To learn mode of transmission, prevention and treatment. 	<ol style="list-style-type: none"> 1. Acquire knowledge on human disease & its clinical significant. 2. Analyze the mode of transmission, prevention and treatment.
V	Major	Agricultural & Environmental Microbiology	<ol style="list-style-type: none"> 1. To provide the fundamental knowledge about the various scopes on Agricultural and Environmental microbiology 2. To learn Plant diseases, Aero microbiology, Aquatic microbiology, disposal of wastes and commercial aspects of soil microbiology. 	<ol style="list-style-type: none"> 1. Gather knowledge about the various scopes on Agricultural and Environmental microbiology 2. Study Plant diseases, Aero microbiology, Aquatic microbiology, disposal of wastes
V	Major	Molecular Biology & Microbial Genetics	<ol style="list-style-type: none"> 1. To provide the students with the fundamental principles & concepts of prokaryotic genes & genomes, their molecular organization, replication & functioning. 2. To learn the process of translation in living cells 	<ol style="list-style-type: none"> 1. Understand fundamental principles and concepts of prokaryotic genes & genomes, their molecular organization, replication and functioning. 2. learn the process of translation and transcription

V	Major Practical	Medical Microbiology, Agricultural & Environmental Microbiology, Molecular Biology & Microbial Genetics Practical	<ol style="list-style-type: none"> 1. To identify gram positive & negative bacteria. 2. To analysis the pH, chlorides, nitrate, calcium, magnesium and total Phosphorus of the soil. 3. To demonstrate the AGE & SDS-PAGE 	<ol style="list-style-type: none"> 1. Observe the knowledge on identification of gram negative & gram positive bacteria 2. Analyze the pH, chlorides, nitrate, calcium & magnesium. 3. Gather the knowledge of AGE & SDS-PHAGE techniques
V	Major	Fundamentals of Botany & Zoology	<ol style="list-style-type: none"> 1. To gain the basic knowledge about plants and animals. 2. To study the bio- control measures of plants. 	<ol style="list-style-type: none"> 1. Knowledge gained about fundamentals of plants & animals 2. Study the bio- control measures of plants
V	Skill Based	Office Management Tools	<ol style="list-style-type: none"> 1. To learn basic knowledge of computer 2. To study the MS office & officer appliance 3. To analyze handling of computer 	<ol style="list-style-type: none"> 1. Learn basic knowledge of computer & its programme 2. Study the MS office & officer appliance 3. Analyze handling of computer
V	Skill Based	Communication & Interpersonal Skills	<ol style="list-style-type: none"> 1. To learn basic communication with English. 2. To study about speaking, reading & writing. 3. To develop skill of resume writing 	<ol style="list-style-type: none"> 1. Learn basic communication with English 2. Study about speaking, reading & writing. 3. Develop skill of resume writing
V	Skill Based	Soft Skill Development	<ol style="list-style-type: none"> 1. To develop communicative competence among the Students. 2. To enhance the learner's soft skills by giving adequate exposure in LSRW and sub skills. 3. To enable learners to put the life skills into practice with confidence. 	<ol style="list-style-type: none"> 1. Develop communicative competence among the Students 2. Enhance the learner's soft skills by giving adequate exposure in LSRW and sub skills 3. Learn the life skills into practice with confidence.
V	Major	Food Microbiology	<ol style="list-style-type: none"> 1. To study about the food microflora, food fermentations, food spoilage, food poisoning and food quality control. 2. To study about food preservatives. 	<ol style="list-style-type: none"> 1. Acquire knowledge of food microflora, food fermentations, food spoilage, food poisoning and food quality control. 2. Learn about food preservation of mass production.
VI	Major	Industrial Microbiology	<ol style="list-style-type: none"> 1. To train the students on bioprocess technology so as to develop them for employment in bioprocess industry. 2. To learn the screening of industrial strains, fermenters, media, fermentation Process and downstream process. 	<ol style="list-style-type: none"> 1. Develop them for employment in bioprocess industry 2. Learn the screening of industrial strains, fermenters, media, fermentation Process and downstream process.
VI	Major Practical	Food & Industrial Microbiology Practical	<ol style="list-style-type: none"> 1. To analyze the quality of food materials 2. To prepare the fermented food using dairy products 	<ol style="list-style-type: none"> 1. Analyze the quality of food materials 2. Learn about fermented food preparation using dairy products.

**SRI SARADA NIKETAN COLLEGE OF SCIENCE FOR WOMEN,
KARUR-05**

**DEPARTMENT OF MICROBIOLOGY
PG PROGRAMME OUTCOMES NOV 2022 – APR 2023**

Semester	Major/No n major	Title of the Paper	Objectives	Outcomes
1	Major	General Microbiology	<ol style="list-style-type: none"> To provide unique characteristic features of microbes. To describe the different types of microscopy and their working principles. To explain about microbial media, preservation and control techniques. 	<ol style="list-style-type: none"> Learn the working principles of important equipments like microscopes. Clearly recognize the contributions of early microbiologists. Understand molecular tools required for accurate microbial identifications.
1	Major	Biological Macromolecules	<ol style="list-style-type: none"> To educate the structure and functions biological molecules To understand the structure & functions of blood, hormones and phytohormones. To study the basic metabolic regulators' characteristic features. 	<ol style="list-style-type: none"> Gain the knowledge of structure and function of biological molecules Understand the structure & functions of blood, hormones & phytohormones. Provide the information about basic metabolic regulators' characteristic features.
1	Major	Applied Biological Sciences	<ol style="list-style-type: none"> To enable the students to understand the basics components of biology. To understand the biological diversity, uniqueness and their characteristic features. To study the importance of biological sciences in human welfare. 	<ol style="list-style-type: none"> Understand the important components of biological sciences. Know the importance of biological sciences in human welfare. Create an awareness to ensure the nature based activities
1	Major Practical	General Microbiology & Biological Macromolecules Practical	<ol style="list-style-type: none"> To deepen students understanding on the importance of lab sterility. To provide a better practice on various media preparation and pure culture methods. To describe assessment of microbes using microscopes 	<ol style="list-style-type: none"> Determine the size of microbes. Isolate and preliminarily identify different microbes. Check whether a bacterium is motile or non- motile
1	Elective Course	Food & Dairy Microbiology	<ol style="list-style-type: none"> To understand various methods of food fermentations and fermented food products. To portray the conceptual basis for understanding probiotics To provide the skills of preparing fermented milk products. 	<ol style="list-style-type: none"> Know Food and microbes and food borne diseases and control. Understand the Food fermentation. Acquire knowledge on Fermented food products. Get a comprehensive idea about the process of Food preservation.
1	VAC	Medical Laboratory Technology	<ol style="list-style-type: none"> To provide the knowledge of collection and processing of clinical samples To study the pathogenic microbial culture & their identification techniques. To give awareness of manage & dispose the biomedical waste. 	<ol style="list-style-type: none"> Prepare various solutions required for diagnostic procedures in laboratories. Conduct immunological tests towards diagnosis of various clinical conditions. Handle histopathology-based disease diagnosis

II	Major	Microbial Physiology & Metabolism	<ol style="list-style-type: none"> 1. To describe the anabolic and catabolic sections of metabolism deeply. 2. To impart the knowledge of extremophilic organisms and their merits. 3. To understand metabolic processes of energy substrates. 	<ol style="list-style-type: none"> 1. Understand the functional principles of various bacterial cell structures 2. Assimilate the mechanism of bacterial cell wall synthesis. 3. Differentiate the types of energy generating mechanisms among prokaryotes.
II	Major	Medical Microbiology	<ol style="list-style-type: none"> 1. To understand the common infections and diseases of medical importance, their microbial causes and pathogenic action. 2. To understand the fungal and protozoan diseases & prevention 	<ol style="list-style-type: none"> 1. Understand classical and molecular determinants of disease causing microbes 2. Describe the characteristics of newer disease-causing bacteria and viruses
II	Major	Bioinformatics and Biostatistics	<ol style="list-style-type: none"> 1. To develop an expertise in biological website. 2. To gain insights about computer-based technology for the study of biological molecules. 3. To find proteins and their interaction, activity, modification and function. 	<ol style="list-style-type: none"> 1. Know the theory behind fundamental bioinformatics. 2. Analyze protein and nucleotide sequences. 3. Know concepts of probability and statistics
II	Major Practical	Microbial Physiology & Metabolism & Medical Microbiology Practical	<ol style="list-style-type: none"> 1. To impart skills required for estimating protein & nucleic acids 2. To study the microbial growth influencing factors. 3. To understand the colorimetric estimating principles of biological molecules 	<ol style="list-style-type: none"> 1. To provide hands-on training as to identify bacteria, fungi, protozoa and helminths from clinical specimens. 2. To provide the knowledge of clinical specimens' collection and methods of serutinization.
II	Elective Course	Microbial Biotechnology	<ol style="list-style-type: none"> 1. To transpire a knowledge about production of pharmaceuticals. 2. To portray about microbial biopolymers. 3. To impart the potential applications of microbial and molecular biotechnology 	<ol style="list-style-type: none"> 1. Receive a fundamental knowledge on therapeutic agents and vaccines 2. Understand the microbial production of commercial products 3. Acquire idea about the role of PGPR, biofertilizers and biocontrol agents
II	Non-major Elective	Chemistry of pollution, food & cosmetics	<ol style="list-style-type: none"> 1. To understand the principle of green chemistry 2. To learn various pollution affecting environment 3. To acquire basic knowledge of chemistry in food & cosmetics. 	<ol style="list-style-type: none"> 1. Understand the principle of green chemistry 2. Gather the effects & prevention of air, water & soil pollution 3. Know basic knowledge of chemistry in food & cosmetics
III	Major	Molecular Biology & Microbial Genetics	<ol style="list-style-type: none"> 1. To impart the current updated knowledge on molecular genetics of prokaryotes. 2. It also endeavors to provide the required fundamental details on eukaryotic molecular genetics. 	<ol style="list-style-type: none"> 1. Update knowledge on molecular genetics of prokaryotes and central dogma of cells 2. Gather knowledge on eukaryotic molecular genetics.
III	Major	Immunology	<ol style="list-style-type: none"> 1. To teach the types of immunity, immune system, antigen, antigen-antibody reaction, T and B cell activation, lymphocytes and cytokines, hyper sensitivity reaction 2. To study immune deficiency disorders, immunohematology 	<ol style="list-style-type: none"> 1. Learn about types of immunity, immune system, antigen, antigen-antibody reaction, T and B cell activation, lymphocytes and cytokines, hyper sensitivity reaction 2. Study immune deficiency disorders, immunohematology

III	Major Practical	Molecular Biology & Microbial Genetics, Immunology Practical	1. To learn Blotting techniques, Restriction digestion and Ligation of DNA & Polymerase Chain Reaction 2. To know about isolation of antibiotic resistant microbes	1. Understand Blotting techniques, Restriction digestion and Ligation of DNA & Polymerase Chain Reaction 2. Analyse about isolation of antibiotic resistant microbes
III	Elective Course	Bioinformatics and Biostatistics	1. To gain insight about computer based technology for the study of biological molecules. 2. To equip statistical skills to solve biological problems.	1. Gain insight about computer based technology for the study of biological molecules 2. Know about statistical skill to solve biological problems
III	Elective Course	Medical Laboratory Technology	1. To train students to work as laboratory technicians and assist pathologist. 2. To encourage and prepare the graduates to improve their standard in medical sectors.	1. Improve their standard in medical sectors. 2. Get education to work as laboratory technicians and assist pathologist.
IV	Major	Medical Microbiology	1. To advanced knowledge on the characteristics of medically important human microbial pathogens with focus on the diseases caused by them, disease pathogenesis, lab diagnosis, prophylaxis.	1. Observed knowledge on the characteristics of medically important human microbial pathogens with focus on the diseases caused by them, disease pathogenesis, lab diagnosis
IV	Major	Bioprocess Technology	1. To learn the process involved in the industrial production of microbial products. 2. To Understand the strategies of strain selection and improvement. 3. To Understand the process of fermentation. Familiarize with types of fermenters and downstream processing	1. Learn the process involved in mass production of microbial products. 2. Understand the types fermentation process in industries 3. Learn the concepts of downstream process.
IV	Major Practical	Medical Microbiology & Bioprocess Technology Practical	1. To know about isolation & identification of bacteria 2. To analyze Antibiotic susceptibility test	1. Get knowledge on isolation & identification of bacteria 2. Learn Antibiotic susceptibility test to Susceptibility of bacteria to antibiotics
IV	Elective Course	Microbial Biotechnology	1. To impart the potential applications of microbial and molecular biotechnology in medicine, agriculture and various other current industrial processes.	1. Observe concepts of applications in microbial and molecular biotechnology in medicine, agriculture and various other current industrial processes. 2. Study utilization of microbes in industrial products.

FOY: *Rajul*
29/2/24
SIGNATURE OF THE HOD

A. A. S.
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SIGNATURE OF THE PRINCIPAL

B.SC CHEMISTRY (2022-2023)

COURSE OBJECTIVES AND OUTCOMES

SEMESTER-I

Language/Major/Allied/Non – Major Elective /SkillBased	Program Paper Title	Objectives	Outcomes
Major Paper	General Chemistry -I	<ul style="list-style-type: none"> To learn the arrangement of elements in the periodic table and to understand the periodic properties To learn the laboratory hygiene,safety measures,principles of qualitative and quantitative analysis To learn the various methods of preparation,structure and stability of reaction intermediates. To understand the chemistry of cycloalkanes,alkenes and alkynes. To learn the types, preparation and properties of sols,colloids and emulsions and the determination of molecular weight of macromolecules 	<ul style="list-style-type: none"> To predict periodic properties and position of elements in the periodictable. To apply the practical aspects in qualitative and quantitative analysis and work safe and hygienically in laboratories. To prepare and predict the stability and reactivities of reaction intermediates. To prepare & explain the properties of colloids and emulsions. To determine the Molecular Weight of macromolecules.
Major Practical	Volumetric Analysis	<ul style="list-style-type: none"> To learn the techniques of titrimetric analyses. To know the estimation of several cations and anions. To know the estimation using neutralization and redox principle. 	<ul style="list-style-type: none"> To understand the use of volumetric pipette,burette and analytical balance. To Explain the principles of volumetric analysis, To prepare standard solution to find out the concentrations of unknown analyte,.
Allied Paper -	MathematicsI	<ul style="list-style-type: none"> To learn the relationship between the derivative of a 	<ul style="list-style-type: none"> Explain the relationship between the

I	Calculus and fourier series	<p>function as a function and the notion of the derivative as the slope of the tangent line to a function at a point.</p> <ul style="list-style-type: none"> To train the students in the basic Integrations, Identify odd and even functions. Use that to determine Fourier series expansion of the given functions. 	<p>derivative of a function as a function and the notion of the derivative as the slope of the tangent line to a function at a point.</p> <ul style="list-style-type: none"> Derive reduction formula and thereby evaluate some standard integrals. Identify odd and even functions. Use that to determine Fourier series expansion of the given functions
General Paper	Value Education	<ul style="list-style-type: none"> To understand the philosophy of life and values through Thirukural To analyse the components of values education to attain the sense of citizenship To understand different types of values towards National Integration and international understanding To learn yoga as value education to promote mental and emotional health To understand human rights, women rights and other rights to promote peace and harmony 	<ul style="list-style-type: none"> Apply the values in Thirukural to be peaceful, dutiful and responsible in family and society Develop character formation and sense of citizenship Be secular, self-control, sincere, respectful and moral. Master yoga, asana and meditation to promote mental health Be attitudinal to follow the constitutional rights

SEMESTER -II

Major Paper	General Chemistry II	<ul style="list-style-type: none"> To understand the principles of bonding and theories of chemical bonding. To understand the chemistry of S-block and Zerogroup elements. To learn the concepts of inorganic semimicro qualitative analysis. To understand the aromatic character of benzene type molecules and to learn the reaction mechanisms involved in haloalkanes and halobenzenes. To understand the properties of atoms, characteristics, effect of radiations and the significance of wave functions. 	<ul style="list-style-type: none"> To explain the principles and theories of chemical bonding. To explain the chemistry of S-block elements and Zerogroup elements. To apply the concept of common ion effect, solubility product in inorganic Semi micro qualitative analysis To explain the reaction mechanism of haloalkanes and halobenzene. To explain atomic models. Atomic spectrum and dual nature of light black body radiation and significances of wave functions.
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Major Practica 1	Applied Experiments in Volumetric Analysis	<ul style="list-style-type: none"> To learn the applications of volumetric analysis in consumer product. To learn the applications of complexometric titrations. To understand estimation of hardness, alkalinity and chlorine in water. 	<ul style="list-style-type: none"> To Apply the principles of complexometric titrations, To understand the conditions of complex formation, To prepare the buffer solutions at a required pH To select the correct titrimetric procedure along with standard and nonstandard solutions. To perform all sorts of volumetric calculations
Allied Paper - I	Mathematics II Algebra, analytical geometry (3d) And trigonometry	<ul style="list-style-type: none"> To learn the basic concepts of Algebra To learn the basic needs Trigonometry 	<ul style="list-style-type: none"> Applying the skills to solve problems in operative algebra. Gain knowledge about the regular geometrical figures and their properties. To Understand the definitions of the inverse trigonometric functions and to Compute the domain and range of the hyperbolic and inverse trigonometric functions and to find exact values of composite functions with inverse trigonometric functions
Allied Paper - II	Mathematics III ODE, PDE, LAPLACE Transforms And Vector Analysis	<ul style="list-style-type: none"> The Students will be able to apply the concepts and methods described in the syllabus they can solve problems using the ordinary and partial differential equation. They will know a number of applications The text and class discussion will introduce the concepts, methods, applications, and logical arguments Learn the application of Laplace transform in engineering analysis. Learn the required conditions for transforming variable or variables in functions by the Laplace transform. Learn the use of available Laplace transform tables for 	<ul style="list-style-type: none"> Solve differential equations using appropriate methods and to present mathematical solutions in a concise and informative manner. Develop a logical understanding of the subject with mathematical skills so that students are able to apply mathematical methods & principles in solving problems in engineering fields. Calculate Laplace transforms and inverses. Apply Laplace transforms to solution of

		<p>transformation of functions and the inverse transformation.</p> <ul style="list-style-type: none"> • Vector analysis is a mathematical shorthand and the vector form helps to provide the clear understanding of the physical laws. This makes the calculus of the vector functions the natural instrument for the physicist and engineers in solid mechanics, electromagnetism. 	<p>differential and integral equations</p> <ul style="list-style-type: none"> • Explain the physical significance of vector calculus, parameterise curves and calculate line integrals. • Use vector operators, calculate double and triple integrals and surface integrals, apply the Green's, Stokes and Divergence theorems and calculate complex integrals.
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SEMESTER -III

Major Paper	General Chemistry-III	<ul style="list-style-type: none"> • To learn the chemistry of p-block elements. • To study about the preparations and properties of compounds of oxygen, Sulphur, halogens and inter halogens. • To understand the arrangement of atoms in space, isomers and the nomenclature. • To learn the gas laws, properties of real gases and types of molecular velocities. • To learn the types, structure and properties of solids and liquid crystals. 	<ul style="list-style-type: none"> • To explain the chemistry of p-block elements. • To prepare and to predict the structure and properties of compounds of oxygen, sulphur, halogens & interhalogen compounds. • To predict the absolute and relative configuration of organic molecules. • To isolate, resolve the mixture of conformational isomers • To explain the gas laws, properties of real gases and types of molecular velocities. • To explain the types, structure and properties of solids and liquid crystals
Major Practical	Semimicro Analysis	<ul style="list-style-type: none"> • To learn the techniques of semimicro qualitative analysis of inorganic salt mixtures. • To learn confirmatory tests to identify several cations and anions. • To learn the principles of qualitative analysis of inorganic salts. 	<ul style="list-style-type: none"> • To understand the systematic steps to perform a qualitative analysis and the logical sequence of each step. • To understand chemical equilibria involving acid/base, redox, precipitation and complexation. • To understand the purpose of elimination of interfering acid radical, separation of groups and identifying cations and anions in

			<p>aqueous solutions.</p> <ul style="list-style-type: none"> To plan, execute and record all the experimental results.
Allied	Physics-I	<ul style="list-style-type: none"> To know the elastic nature of materials, analyze the expression for Young's modulus and comprehend about viscosity and surface tension of fluids. To acquire knowledge of the centre of gravity, states of equilibrium of rigid bodies and stability of floating bodies. To understand the laws of thermodynamics, thermal conductivity and blackbody radiation. To familiarize the concepts of interference and diffraction. To know the formation, characteristics and applications of diodes and transistors. 	<ul style="list-style-type: none"> Apply the concepts of elasticity, viscosity and surface tension to solve problems encountered in everyday life. Understand the centre of gravity, states of equilibrium of rigid bodies and also stability of floating bodies. Understand the laws of thermodynamics, thermal conductivity and black body radiation. Understand the theories and experiments on interference and diffraction using air wedge, Newton's ring and grating. Know the formation, characteristics and applications of diodes and transistor.
Non-Major Paper	DRUGS AND COSMETICS	<ul style="list-style-type: none"> To learn the terminologies used in drugs. To know the different types of drugs and to understand the mode of action. To learn the methods of preparation of household cleaning reagents and cosmetics. 	<ul style="list-style-type: none"> To state the terminologies used in drugs. To explain the mode of action of antibiotics. To explain the mode of action of antipyretic and analgesics. To prepare domestically useful products like soaps, detergents and cosmetics.

SEMESTER -IV

Major Paper	General Chemistry – IV	<ul style="list-style-type: none"> • To learn the general characteristics of d and f block elements. • To know the principles of metallurgy. • To understand the reactions of organometallic compounds, alcohols, phenols and ethers. • To learn the fundamental concepts of first law of thermodynamics, to relate heat, work and energy and to calculate work from pressure – volume relationships. • To learn the fundamental concepts of rate of reaction, determination of order of the reaction and theories of reaction rates. 	<ul style="list-style-type: none"> • To explain the general characteristics of d and f block elements. • To apply the principles of metallurgy for extraction of metal from ores. • To explain the reactions of organometallic compounds, alcohols, phenols and ethers. • To relate heat, work and energy and to calculate work from pressure – volume relationships. • To determine order of the reaction and to explain theories of reaction rates.
Major Practical	Semi Micro Analysis (P)	<ul style="list-style-type: none"> • To learn the techniques of semimicro qualitative analysis of inorganic salt mixtures. • To learn confirmatory tests to identify several cations and anions. • To learn the principles of qualitative analysis of inorganic salts. 	<ul style="list-style-type: none"> • To understand the systematic steps to perform a qualitative analysis and the logical sequence of each step. • To understand chemical equilibria involving acid/base, redox, precipitation and complexation. • To understand the purpose of elimination of interfering acid radical, separation of groups and identifying cations and anions in aqueous solutions. • To plan, execute and record all the experimental results.

Physics-II	<ul style="list-style-type: none"> • This course is to highlight the Modern Physics and digital Electronics • To Understand the centre of gravity, states of equilibrium of rigid bodies and also stability of floating bodies. • To Understand the laws of thermodynamics, thermal conductivity and black body radiation. • To Understand the theories and experiments on interference and diffraction using air wedge, Newton's ring and grating. • To Know the formation, characteristics and applications of diodes and transistor. 	<ul style="list-style-type: none"> • Apply the concepts of elasticity, viscosity and surface tension to solve problems encountered in everyday life. • Understand the centre of gravity, states of equilibrium of rigid bodies and also stability of floating bodies. • Understand the laws of thermodynamics, thermal conductivity and black body radiation. • Understand the theories and experiments on interference and diffraction using air wedge, Newton's ring and grating. • Know the formation, characteristics and applications of diodes and transistor.
Chemistry in Everyday Life	<ul style="list-style-type: none"> • To learn the scientific and chemical principles in water chemistry • To learn the applications of chemistry in agriculture. • To learn additives and adulterants used in food chemistry, • To know the chemicals used in cosmetics and other materials used in everyday life. • To understand the chemical used and properties of polymers, fibers and dyes. 	<ul style="list-style-type: none"> • To prepare demineralized and desalinated water. • To explain the importance and requirements of good pesticides, fertilizers and fungicides used in agriculture. • To explain food additives and their carcinogenic effects. • To know the types of polymers and plastics with examples. • To explain the ory of dying processes

SEMESTER -V

Major Paper	Inorganic Chemistry-I	<ul style="list-style-type: none"> To understand the basics and theories of coordination compounds. To study a few biologically important coordination compounds. To understand the preparation and properties of nitrosyl compounds To learn the basic principles and applications of magnetic properties To understand the basics and theories of coordination compounds. To study a few biologically important coordination compounds. To understand the preparation and properties of nitrosyl compounds 	<ul style="list-style-type: none"> To predict different types of isomerism exhibited by coordination compounds To explain the various theories of coordination compounds to explain their geometry, stability and magnetic properties. To explain kinetics and thermodynamic stability of coordination complexes To explain preparation, magnetic properties and structure of metal carbonyls. To explain preparation, magnetic properties and structure of nitrosyls.
Major Paper	Organic Chemistry-I	<ul style="list-style-type: none"> To learn the reactions of carbonyl compounds, carboxylic acids, amines, heterocycles. To know the oxidizing and reducing agents for synthesis. To understand chemistry of heterocyclic compounds and dyes. 	<ul style="list-style-type: none"> To categorize different types of reactions of carbonyl compounds based on the reactive species and products. To correlate acidity of carboxylic acids based on substituents To distinguish the basicity of aromatic amines and aliphatic amines based on substituents To compare the properties and reactivities of five, six membered and fused heterocyclic compounds To identify suitable reagent for specific reactions of oxidation and reduction To classify the dyes according to application and structure
Major Paper		<ul style="list-style-type: none"> To know the various concepts of photochemistry and group theory. To learn the second law of 	<ul style="list-style-type: none"> To correlate the photophysical processes and their applications To apply the principle of Carnot cycle in all

	Physical Chemistry-I	<p>thermodynamics, Carnot cycle, Carnot theorem, entropy, free energy and Maxwell's relations.</p> <ul style="list-style-type: none"> To learn the third law of thermodynamics, van't Hoff isotherm, Clausius-Clapeyron equation and Nernst heat theorem. To understand the laws and properties of solutions. To learn the fundamental concepts of phase rule and its applications to one, two and three component systems. 	<p>types of heat engines and working fluids</p> <ul style="list-style-type: none"> To compute equilibrium constants of PCl_5, NH_3, CaCO_3 at constant pressure and concentration To apply colligative properties to determine the molecular weight of solutes To predict qualitatively the effect of changing temperature, pressure or concentration on heterogeneous system in equilibrium using Phase diagram To apply symmetry operations and find point group of molecules H_2O, BF_3, NH_3
Major Practical	Physical Chemistry (P)	<ul style="list-style-type: none"> To learn the fundamentals of conductometric and potentiometric titrations. To understand the method of determination of molecular weight, CST, T_1 and rate constant To learn to determine rate constant of ester hydrolysis reactions 	<ul style="list-style-type: none"> To apply the principles of physical chemistry to the given system and evaluate the experiments. To understand the colligative properties, chemical kinetics and phase equilibria. To understand the electrochemical methods for acid/base titrations, conductometric/Potentiometric curves and evaluation methods. To describe electrochemical cell and the electrode potential and explain about reference electrodes.
Major Paper	Analytical Chemistry	<ul style="list-style-type: none"> To learn the purification techniques of solids and liquids. To understand data analysis, various separation techniques. To learn gravimetric analysis and various thermo analytical methods. To learn visible spectro photometry and colorimetry. To know the various electro analytical 	<ul style="list-style-type: none"> To determine various types of error in analysis of data. To apply chromatographic principle to identify and separate the substances from mixture. To predict the factors affecting gravimetric estimation. To characterize thermal stability of a substance using TGA and DTA.

		techniques.	<ul style="list-style-type: none"> To apply spectroscopic principle to analyze the purity and identify the nature of the substances.
Major Paper	Material&Nano Chemistry	<ul style="list-style-type: none"> To study the types of ionic crystals and defects in solids. To learn the different kinds magnetic properties. To learn the basic concepts of nanomaterial's and their applications. 	<ul style="list-style-type: none"> To apply solid electrolytes in electrooptical techniques for remote control and communication processes To classify and apply magnetic material in electronic and electrical instruments. To explain the composition, properties and applications of engineering materials such as glass, composites and biopolymers. To synthesise nanomaterials using various top down and bottom up methods To compare CVD and FCVD technique for synthesising nanomaterials To explain the applications of nanotechnology and nanomaterials in various fields.
Skill Based	Soft Skills Development	<ul style="list-style-type: none"> To Develop communicative competence among the Students. To enhance the learner's soft skills by giving adequate exposure in LSRW and subskills. To enable learner to put the life skills into practice with confidence. 	<ul style="list-style-type: none"> Develop listening, speaking, reading and writing skills in English. Enhance soft skills and engage in a range of communicative tasks and activities Comprehend and extend identify specific and global information Promote communicative ability in both spoken and written form of the language Develop interpersonal skills to maintain human relationship Develop corporate skills to promote leadership qualities and team spirit

SEMESTER -VI

Major Paper	Organic Chemistry-II	<ul style="list-style-type: none"> To learn the chemistry of carbohydrates, proteins, vitamins, alkaloids and terpenoids. To understand the rearrangements and spectroscopy techniques for the elucidation of structures. 	<ul style="list-style-type: none"> To comprehend the properties, structure and configuration of Carbohydrates To apply the biological importance of vitamins in day to day life To explain the chemistry of alkaloids and terpenoids To predict the formation of intermediate and products in rearrangement reactions To illustrate the type of electronic transitions in UV-Visible spectroscopy To interpret the NMR and IR spectral data to arrive the structure of molecules
Major Paper	Physical Chemistry-II	<ul style="list-style-type: none"> To learn the various concepts of electro chemistry. To know the types and theories of catalysis. To learn the adsorption isotherms. To know the spectroscopic techniques such as IR, UV-visible, Raman and NMR. 	<ul style="list-style-type: none"> To explain the concepts of Electrochemistry and its applications To demonstrate the construction of different kinds of electrochemical cells To explain the factors influencing enzyme catalysis To predict the nature of adsorption using Langmuir adsorption isotherm To identify the functional groups and structure of simple molecules using IR spectroscopy To interpret the NMR spectra of simple molecules
Major Practical	Gravimetric & Organic Analysis (P)	<ul style="list-style-type: none"> To learn the techniques of gravimetric analysis. To learn the methods of different organic compounds preparation and analysis. 	<ul style="list-style-type: none"> To recognize the principles of gravimetric analysis. To understand the basics of gravimetric analysis of selected cations involving methods, selection of precipitants, nucleation, aggregation of precipitate, removal of contamination and weighing a precipitate..

Major Paper	Nuclear, Industrial Chemistry & Metallic State	<ul style="list-style-type: none"> To identify the mechanisms and characteristics of radioactive decays. To describe the electronic structure of atoms of important semiconductors (Si, Ge, Ga, As) and to distinguish between intrinsic and extrinsic semiconductors. 	<ul style="list-style-type: none"> Identify the mechanisms and characteristics of radioactive decays. Describe the electronic structure of atoms of important semiconductors (Si, Ge, Ga, As) and to distinguish between intrinsic and extrinsic semiconductors.
Major Paper	Polymer Chemistry	<ul style="list-style-type: none"> To know the chemistry of polymers. To study the importance of polymers. To study the concepts of polymerization and techniques. 	<ul style="list-style-type: none"> To compare thermoplastics and thermosetting polymers. To predict the various mechanism of polymerization To describe various techniques of polymerization
General Paper	Gender studies	<ul style="list-style-type: none"> To make boys and girls aware of each others strengths and weakness. To develop sensitivity towards both genders in order to lead an ethically enriched life. To promote attitudinal change towards a gender balanced ambience and women empowerment. 	<ul style="list-style-type: none"> Students would have gained a perspective and understood the social reality of gender society understood the differences of gender and sex and may resort to building alternative perspectives and critical thinking. Gained knowledge on the various social institutions governing gender and the intersectionality. Exposed to the kind of initiatives of the State towards gender equality

M.SC CHEMISTRY (2022-2023)

SEMESTER-I

Language/Major/Allied/ Non – Major Elective /SkillBased	Program Paper Title	Objectives	Outcomes
Major Paper	InorganicChemistryI	<ul style="list-style-type: none"> To understand the basic concepts of main group elements. To learn the theories and mechanism of reactions of metal complexes. To study the concepts of photochemistry and its applications. 	<ul style="list-style-type: none"> Students understood the basic concepts of main group elements. Students learned the theories and mechanism of reactions of metal complexes. Students studied the concepts of photochemistry and its applications
Major Paper	Organic ChemistryI	<ul style="list-style-type: none"> To learn the Nomenclature of Organic Compounds To learn stereo chemistry of organic compounds. To understand the basic concepts of aromaticity. To know about oxidation and reducing reagents for organic synthesis. 	<ul style="list-style-type: none"> Students learned the Nomenclature of Organic Compounds Students learned stereo chemistry of organic compounds. Students understood the basic concepts of aromaticity. Students knew about oxidation and reducing reagents for organic synthesis
Major Paper	Physical Chemistry-I	<ul style="list-style-type: none"> To study the theories of kinetics,photochemistry and radiation chemistry. To understand the concepts of quantum mechanics and group theory. To learn the statistical thermodynamics. 	<ul style="list-style-type: none"> studied the theories of kinetics,photochemistry and radiation chemistry. understood the concepts of quantum mechanics and group theory. learned the statistical thermodynamics.
Major Practical	InorganicChemistryPractical	<ul style="list-style-type: none"> To perform the semi-micro qualitative analysis. To estimate the metal ions using 	<ul style="list-style-type: none"> performed the semi-micro qualitative analysis. Students estimate the metal ions

		<ul style="list-style-type: none"> colorimeter. To Prepare the coordination complexes 	<ul style="list-style-type: none"> using colorimeter. Prepared the coordination complexes
Major Elective paper	Analytical Chemistry	<ul style="list-style-type: none"> To learn the instrumental methods To learn the nature of errors and their types. To understand the various techniques in chromatography. To understand the principles and instrumentation of thermo analytical and fluorescence techniques. To studying detail the electro analytical techniques. 	<ul style="list-style-type: none"> learned the instrumental methods learned the nature of errors and their types. Students understood the various techniques in chromatography. Students understood the principles and instrumentation of thermo analytical and fluorescence techniques. studying detail the electro-analytical techniques.
Value added course	Environmental Chemistry	<ul style="list-style-type: none"> To know the fundamentals of various environment. To study the Energy Resources, Eco system, Biodiversity and its Conservation. To learn environment related social issues 	<ul style="list-style-type: none"> Students knew the fundamentals of various environment. Students studied the Energy Resources, Eco system, Biodiversity and its Conservation. Students learned environment related social issues

SEMESTER-II

Major Paper	Physical Chemistry II	<ul style="list-style-type: none"> To study the applications of quantum chemistry and group theory. To acquire knowledge about various spectroscopic techniques. 	<ul style="list-style-type: none"> studied the applications of quantum chemistry and group theory. Students acquired knowledge about various spectroscopic techniques.
Major Paper	Inorganic Chemistry II	<ul style="list-style-type: none"> To understand the role of metal ions in biological 	<ul style="list-style-type: none"> Students understood the role of metal ions in biological

		<p>process.</p> <ul style="list-style-type: none"> To learn the basic concepts of chemotherapy. To learn the fundamentals of organometallic compounds and catalysis. 	<p>process.</p> <ul style="list-style-type: none"> Students learned the basic concepts of chemotherapy. Students learned the fundamentals of organometallic compounds and catalysis.
Major Paper	Bio-Organic Chemistry	<ul style="list-style-type: none"> To learn the preparation, properties of amino acids and proteins. To study the activity of enzymes and cofactors. To know basics of lipids and nucleic acids. To learn the concept of bioenergetics. To learn the principles of lead and analogue synthesis. 	<ul style="list-style-type: none"> Students learned the preparation, properties of amino acids and proteins. studied the activity of enzymes and cofactors. Students knew basics of lipids and nucleic acids. Students learned the concept of bioenergetics. Students learned the principles of lead and analogue synthesis.
Major Practical	Organic Chemistry Practical	<ul style="list-style-type: none"> To perform the qualitative analysis of a given organic mixture. To estimate the organic compounds 	<ul style="list-style-type: none"> Students performed the qualitative analysis of a given organic mixture. estimated the organic compounds
Major Elective paper	Pharmaceutical Chemistry	<ul style="list-style-type: none"> To understand the basics of pharmaceutical chemistry. To study the antibiotics and their activity. To learn the analgesic and antipyretic activities. To know the activities of 	<ul style="list-style-type: none"> Students understood the basics of pharmaceutical chemistry. studied the antibiotics and their activity. Students learned the analgesic and antipyretic

		<p>anaesthetics and local anaesthetics.</p> <ul style="list-style-type: none"> To understand concept of clinical chemistry 	<p>activities.</p> <ul style="list-style-type: none"> Students knew the activities of anaesthetics and local anaesthetics. Students understood concept of clinical chemistry
Non-Major Elective paper	Chemistry of Pollution, Food and Cosmetics	<ul style="list-style-type: none"> To understand the principles of Green chemistry. To learn the various pollutions affecting the environment. To acquire basic knowledge about chemistry of food and cosmetics. 	<ul style="list-style-type: none"> Students understood the principles of Green chemistry. learned the various pollutions affecting the environment. acquired basic knowledge about chemistry of food and cosmetics.

SEMESTER-III

Major Paper	Organic Chemistry III	<ul style="list-style-type: none"> To learn the Photochemistry and Pericyclic reactions To apply the various spectroscopic techniques of organic compounds To understand the Retrosynthetic analysis and strategy. 	<ul style="list-style-type: none"> Students learned the Photochemistry and Pericyclic reactions To applied the various spectroscopic techniques of organic compounds Students understood the Retrosynthetic analysis and strategy.
Major Paper	Physical Chemistry III	<ul style="list-style-type: none"> To learn about the Electrochemistry To acquire knowledge about kinetics, surface Phenomena and catalysis To understand Classical Thermodynamics. 	<ul style="list-style-type: none"> Students learned about the Electrochemistry acquired knowledge about kinetics, surface Phenomena and catalysis Students understood Classical Thermodynamics.
Major Paper	Inorganic Photo Chemistry	<ul style="list-style-type: none"> To educate students on the principles of photochemistry To understand the various photochemical properties of transition metal complexes 	<ul style="list-style-type: none"> educated students on the principles of photochemistry Students understood the various photochemical properties of transition metal

		<ul style="list-style-type: none"> To acquire knowledge in charge transfer photochemistry To know the various photochemical reactions taking place on solid surfaces 	<p>complexes</p> <ul style="list-style-type: none"> acquired knowledge in charge transfer photochemistry Students know the various photochemical reactions taking place on solid surfaces
Major Practical	Physical Chemistry Practical	<ul style="list-style-type: none"> To learn the fundamentals of conductometric and potentiometric titrations. To understand the method of determination of molecular weight, CST, TT and rate constant To learn to determine rate constant of ester hydrolysis reactions 	<ul style="list-style-type: none"> To apply the principles of physical chemistry to the given system and evaluate the experiments. To understand the colligative properties, chemical kinetics and phase equilibria. To understand the electrochemical methods for acid/base titrations, conductometric/Potentiometric curves and evaluation methods. To describe electrochemical cell and the electrode potential and explain about reference electrodes.
Major Elective paper	Green Chemistry	<ul style="list-style-type: none"> To learn the green chemistry and their principles. To learn the importance of green reactions. To understand the phase-transfer catalyst in green chemistry 	<ul style="list-style-type: none"> To learn the green chemistry and their principles. To learn the importance of green reactions. Students understood the phase-transfer catalyst in green chemistry
Non-Major Elective paper	Chemistry in Day-To-Day Life	<ul style="list-style-type: none"> To acquire the fundamental concepts related to the chemistry in daily life To understand the importance of different types of commercial products for the environment To apply the basic concepts of chemistry in the manufacture of commercial products for the society To find the efficiency and the utility of the products derived from the basic and applied concepts of chemistry 	<ul style="list-style-type: none"> Students acquired the fundamental concepts related to the chemistry in daily life Students understood the importance of different types of commercial products for the environment Students applying the basic concepts of chemistry in the manufacture of commercial products for the society To find the efficiency and the utility of the products derived from the basic and

		<ul style="list-style-type: none"> To have knowledge about the basic concepts of various micro nutrients, fertilizer, dyes, disinfectants and detergents. To introduce the properties, structural elucidation, applications and the demerits of the products of the applied chemistry. 	<p>applied concepts of chemistry</p> <ul style="list-style-type: none"> Students had knowledge about the basic concepts of various micro nutrients, fertilizer, dyes, disinfectants and detergents. To introduced the properties, structural elucidation, applications and the demerits of the products of the applied chemistry.
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SEMESTER-IV

Major Paper	Chemistry of Nanoscience and Nanotechnology	<ul style="list-style-type: none"> To know the synthetic methods of nanomaterials. To understand the characterization of nanomaterials. To understand carbon clusters and nano structures. To learn nano technology and nano devices. 	<ul style="list-style-type: none"> Students knew the synthetic methods of nanomaterials. Students understood the characterization of nanomaterials. Students understood carbon clusters and nano structures. Students learned nano technology and nano devices.
Major Paper	Selected Topics in Chemistry	<ul style="list-style-type: none"> To acquire the knowledge about crystallographic techniques. To understand the retro-synthetic methods. To study Natural products and macro molecules. To learn the principles and applications of nuclear chemistry. 	<ul style="list-style-type: none"> Students acquired the knowledge about crystallographic techniques. Students understood the retro-synthetic methods. Students studying Natural products and macro molecules. Students learned the principles and applications of nuclear chemistry.
Major Elective Paper	Industrial Chemistry	<ul style="list-style-type: none"> To know the basic ideas of 	<ul style="list-style-type: none"> Students knew the basic

		<p>an industry and industrial wastes.</p> <ul style="list-style-type: none"> • To understand the petroleum and petrochemicals. • To understand the functions of portland cement. • To study the principles of pulp and paper. • To know the preparation of soaps, detergents and perfumes 	<p>ideas of an industry and industrial wastes.</p> <ul style="list-style-type: none"> • Students understood the petroleum and petrochemicals. • Students understood the functions of portland cement. • Students studied the principles of pulp and paper. • Students knew the preparation of soaps, detergents and perfumes
Value added course	Polymer Chemistry	<ul style="list-style-type: none"> • To know the basic concepts of polymers. • To study the Structure and Properties of Polymers. • To learn the applications of polymers. 	<ul style="list-style-type: none"> • Students knew the basic concepts of polymers. • Students studied the Structure and Properties of Polymers. • Students learned the applications of polymers.

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N. R. [Signature]
 5/3/24
 PRINCIPAL,
 Sri Sarada Niketan College of
 Science for Women,
 Kozangipatti,
 Karur - 639 035.

Department of Physics

Subject Objectives and Outcomes

B.Sc., Physics

ODD Semester

Major/Allied/ Major based Elective	Title of the Paper	Objectives	Outcomes
Major	Properties of Matter and Acoustics	<ol style="list-style-type: none">1. To inculcate the knowledge of certain properties of matter namely, elasticity, surface tension and viscosity.2. To enable the students to understand the basic concepts of sound.3. To describe the experimental techniques for the determination of properties so that the learner can do the experiments with better understanding.	<ol style="list-style-type: none">1. Differentiate the moduli of elasticity of different materials2. Analyse the moduli of elasticity of materials made in the form of beams.3. Understand the practical applications of surface tension in real life.4. Acquire the knowledge of the flow of liquids based on their viscous nature and the variation of viscosity with temperature and pressure5. Understand the various characteristics of sound and their practical implications.

Allied	Calculus And Fourier Series	<ol style="list-style-type: none"> 1. To learn the basic Mathematics for their concepts. 2. To train the students in the basic Integrations. 	<ol style="list-style-type: none"> 1. Explain the relationship between the derivative of a function as a function and the notion of the derivative as the slope of the tangent line to a function at a point. 2. Derive reduction formula and thereby evaluate some standard integrals. 3. Identify odd and even functions. Use that to determine Fourier series expansion of the given functions. 4. Apply change of variable method to evaluate double integral.
	Value Education	<ol style="list-style-type: none"> 1. To understand the philosophy of life and values through Thirukural 2. To analyse the components of values education to attain the sense of citizenship 3. To understand different types of values towards National Integration and international understanding 4. To learn yoga as value education to promote mental and emotional health 5. To understand human rights, women rights and other rights to promote peace and harmony 	<ol style="list-style-type: none"> 1. Apply the values in thirukural to be peaceful, dutiful and responsible in family and society 2. Develop character formation and sense of citizenship 3. Be secular, self-control, sincere, respectful and moral. 4. Master yoga, asana and meditation to promote mental health 5. Be attitudinal to follow the constitutional rights

Major	Thermal Physics	<ol style="list-style-type: none"> 1. To make the students understand the Quantum theory of specific heat capacities of solids 2. To impart the knowledge of changes of entropy in different process 3. To make the learners evaluate the thermal conductivities of good and bad conductors 4. To make the students to know the different sources of energy 5. To provide knowledge so that the students can apply the principle of Refrigerating mechanism 	<ol style="list-style-type: none"> 1. Recall the different specific heat capacities of matters. 2. Understand the Maxwell's thermodynamic relations to relate the fundamental and derived quantities. 3. Apply the knowledge of conduction of heat in practical applications. 4 Use Stefan's constant to evaluate temperature of sun at a particular place. 5. Analyze the different principles used in liquefaction of gases
Allied	Allied Chemistry	<ol style="list-style-type: none"> 1. To understand the various theories of coordination chemistry. 2. To study the various concepts of resonance and halogen compounds. 3. To study the properties of aromatic compounds and organic reactions. 4. To learn the concepts of solid-state chemistry. 	<ol style="list-style-type: none"> 1. To describe structure and functions of biologically important coordination compounds. 2. To apply electromeric and resonance effect to predict reactivity and stability of organic compounds 3. To classify the drugs based on their mode of actions. 4. To predict conditions for spontaneous and non-spontaneous reactions. 5. To calculate Gibb's free energy, work function and entropy of a reaction 6. To determine order of chemical reactions
	Professional English-II	<ol style="list-style-type: none"> 1. Develop their competence in the use of English with particular reference to the workplace situation. 	<ol style="list-style-type: none"> 1. Attend interviews with boldness and confidence.

		<ol style="list-style-type: none"> 2. Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace. 3. Develop their competence and competitiveness and thereby improve their employability skills. 4. Help students with a research bent of mind develop their skills in writing reports and research proposals. 	<ol style="list-style-type: none"> 2. Adapt easily into the workplace context, having become communicatively competent. 3. Apply to the Research & Development organisations/ sections in companies and offices with winning proposals.
Non Major	Fundamentals of Information Technology	<ol style="list-style-type: none"> 1. To learn the basics of Information Technology 2. To understand the fundamentals of Internet Connections and Web Page designing using HTML. 3. To acquire Knowledge on Multimedia and the Internet. 	<ol style="list-style-type: none"> 1. Understand the terms related to Information Technology 2. Know the usage of E-Mail and ISDN 3. Acquire the concepts of Markup Languages and Common Internet Tools 4. Develop Knowledge about Multimedia on the internet 5. Recall the concepts of firewalls and viruses.
Major	Optics	<ol style="list-style-type: none"> 1. To impart knowledge of geometrical optics. 2. To inculcate the fundamental laws concerning interference, diffraction, polarization and allied phenomena. 	<ol style="list-style-type: none"> 1. Understand the geometrical optics 2. Get the knowledge about interference and holography

		3. To make the students gain knowledge of basic optical instrumentation	3. Acquire the theoretical aspects of diffraction and familiarize grating 4. Grasp the fundamentals of polarization and its classification 5. Understand the working principles of optical instruments like microscopes, telescopes and refract meters, etc.
Major	Atomic and Molecular physics	1. To familiarize the constituents of the atom, atomic models, the impact of magnetic and electric fields on spectra. 2. To provide the necessary knowledge of the concepts of photoelectric cells. 3. To provide the knowledge of molecular spectra and molecular orbital theories	1. Learn about the elements that made up an atom. 2. Acquire the knowledge of underpinning atomic models and the impact of magnetic and electric fields on spectra. 3. Communicate the concept of photoelectric cells. 4. Enhance the knowledge of molecular spectra 5. Provide a detailed study of molecular orbital theories.
	Electronics	1. To provide the knowledge of intrinsic, extrinsic semiconductors and transistor circuit configuration 2. To inculcate the digital electronic concepts required to analyse and design digital electronic circuits and systems. 3. To impart knowledge of various number systems, data representation, logical circuits and their implementation, combinational, sequential digital systems and operational amplifiers.	1. Understand the fundamental principles of semiconductors including p-n junctions and zener diode 2. Analyze the characteristics of transistor and transistor biasing circuits 3. Perform conversion between various number systems. 4. Apply knowledge of Boolean algebra and other minimization techniques for digital circuit design. 5. Identify, formulate and solve problems based on combinational circuits 6. Verify the functions of various digital integrated circuits.
Major	Material Science	1. To impart the knowledge of crystallography. 2. To introduce the basic ideas of bonding and defects in solids	1. To differentiate the bonding in solids and identify the defects prevalent in crystalline solids 2. To apply the gained knowledge about theories on conductors and semiconductors for learning related advanced topics

		<p>3 To make the students understand the properties of metals and semiconductors</p> <p>4. To inculcate the knowledge of dielectric, magnetic and superconducting properties of materials.</p>	<p>3. To analyze the dielectric and magnetic various materials,</p> <p>4. To review the peculiar properties of superconducting materials and their implications.</p>
Skill	Office Management Tools	<ol style="list-style-type: none"> 1. Management by objectives (MBO) refers to the process of setting specific objectives for your employees to work towards. 2. This has become a key part of performance management in recent decades. Supporters of MBO say giving employees clear goals improves motivation. 	<ol style="list-style-type: none"> (1). Identify skills and competencies of an office manager. (2) Describe different forms of organizations. (3) Develop processes for office operations. (4) Identify components of office management roles and procedures and team dynamics. (5) Communicate finding using business software applications (MS Office: Word, Excel, and PowerPoint)
	Soft Skills Development	<ol style="list-style-type: none"> 1. To Develop communicative competence among the Students. 2. To enhance the learner's soft skills by giving adequate exposure in LSRW, and sub skills. 3. To enable learners to put the life skills into practice with confidence. 	<ol style="list-style-type: none"> 1. Develop listening, speaking, reading and writing skills in English. 2. Enhance soft skills and engage in a range of communicative tasks and activities 3. Comprehend a text and identify specific and global information 4. Promote communicative ability in both spoken and written form of the language 5. Develop interpersonal skills to maintain human relationship 6. Develop corporate skills to promote leadership qualities and team spirit.

Even Semester

Major/Allied/ Major based Elective	Title of the Paper	Objectives	Outcomes
Major	Mechanics and theory of relativity	<ol style="list-style-type: none"> 1. To provide a better insight into the change of position of any physical object or event and their consequences. 2. To inculcate the Newton's law of gravitation and Kepler's laws of planetary motion and their implications 3. To impart the knowledge of theory of relativity and its applications.* 	<ol style="list-style-type: none"> 1. Use the principles of projectiles to explain the manner in which gravity affects a projectile motion. 2. Gain a deeper knowledge of mechanics and its fundamental concepts. 3. Acquire the knowledge of gravitational force between objects and the centre of mass of objects. 4. Learn rigid body dynamics in terms of moment of inertia and also analyze the center of gravity of different bodies. 5. Analyze the special theory of relativity and its applications.
Allied	Algebra, Analytical Geometry (3d) And Trigonometry	<ol style="list-style-type: none"> 1. To learn the basic concepts of Algebra 2. To learn the basic needs Trigonometry 	<ol style="list-style-type: none"> 1. Applying the skills to solve problems in operative algebra. 2. Gain knowledge about the regular geometrical figures and their properties.

			3. To Understand the definitions of the inverse trigonometric functions and to Compute the domain and range of the hyperbolic and inverse trigonometric functions and to find exact values of composite functions with inverse trigonometric functions
Allied	ODE,PDE,Laplace Transforms & Vector Analysis	<ol style="list-style-type: none"> 1. The Students will be able to apply the concepts and methods described in the syllabus they can solve problems using the ordinary and partial differential equation. 2. They will know a number of applications The text and class discussion will introduce the concepts, methods, applications, and logical arguments 3. Learn the application of Laplace transform in engineering analysis. 4. Learn the required conditions for transforming variable or variables in functions by the Laplace transform. 5. Learn the use of available Laplace transform tables for transformation of functions and the inverse transformation. 6. Vector analysis is a mathematical shorthand and the vector form helps to provide the clear understanding of the 	<ol style="list-style-type: none"> 1. Solve differential equations using appropriate methods and to present mathematical solutions in a concise and informative manner. 2. Develop a logical understanding of the subject with mathematical skills so that students are able to apply mathematical methods & principles in solving problems in engineering fields. 3. Calculate Laplace transforms and inverses. 4. Apply Laplace transforms to solution of differential and integral equations 5. Explain the physical significance of vector calculus, parameterise curves and calculate line integrals, 6. Use vector operators, calculate double and triple integrals and surface integrals, apply the Green's, Stokes and Divergence theorems and calculate complex integrals.

		physical laws. This makes the calculus of the vector functions the natural instrument for the physicist and engineers in solid mechanics, electromagnetism.	
	EVS	<ol style="list-style-type: none"> 1. To appreciate the scope of Environmental Studies, Community ecology and the interdisciplinary nature of environmental issues • To have a basic knowledge of Natural resources its classification, concepts, and natural resources of India. 2. The course designed to gain knowledge on values of biodiversity and conservation on global, national, and local scales 3. To study about sources and effects of environmental pollution like air, water, soil, thermal, marine, nuclear and noise 4. To understand the concerns related to Sustainable Development on environment and health 5. To introduce the students in the field of Law and Policies and Acts both at the national and international level relating to environment. 	<ol style="list-style-type: none"> 1. Understand the environmental importance including interactions across local to global scales. 2. The learners to update and analyze environmental relationships and interactions of environmental components 3. The student to gain knowledge on importance of natural resources in a systematic way. 4. The course content is introduce the concept of renewable and non-renewable energy resources and its scenario in India and at global level 5. The students will know the relationship between biodiversity and ecosystem functions, direct and indirect values of biodiversity resources and their bioprospecting opportunities. 6. The learners can gain awareness related on environmental pollution, causes and pollution control with case studies. 7. Student to obtain the environmental ethics and gain knowledge about the sustainable development. 8. Learners should realize the environmental legislation and policies of national and

			international regime and know the regulations applicable to industries and other organizations with significant Environmental aspects
	Professional English for Physical Sciences I	<ol style="list-style-type: none"> 1. To develop the language skills of students by offering adequate practice in professional contexts. 2. To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students 3. To focus on developing students' knowledge of domain specific registers and the required language skills 4. To develop strategic competence that will help in efficient communication 5. To sharpen students' critical thinking skills and make students culturally aware of the target situation. 	<ol style="list-style-type: none"> 1. Recognise their own ability to improve their own competence in using the language 2. Use language for speaking with confidence in an intelligible and acceptable manner 3. Understand the importance of reading for life 4. Read independently unfamiliar texts with comprehension 5. Understand the importance of writing in academic life. 6. Write simple sentences without committing error of spelling or grammar
Major	Electricity & Magnetism	<ol style="list-style-type: none"> 1. To study the fundamental ideas on electrostatics and current electricity 2. To classify materials based on their magnetic properties 3. To understand the concept of resonance circuits 	<ol style="list-style-type: none"> 1. Understand fundamental laws of electricity and magnetism 2. Analyze the calibration of electrical instruments. 3. Verify the laws of electromagnetic induction 4. Apply the knowledge of electricity and magnetism towards technological applications 5. Differentiate magnetic materials

Allied	General Chemistry II	<ol style="list-style-type: none"> 1. To learn the basics of nuclear chemistry and metallic bond. 2. To understand the properties and applications of carbohydrates, amino acids and proteins. 3. To study the basic concepts of polymers, heterocyclic compounds and stereoisomerism. 	<ol style="list-style-type: none"> 1. To explain theory of nuclear chemistry and chemical bonding. 2. To classify carbohydrates and proteins. 3. To synthesise polymers and hetero cyclic compounds. 4. To apply conductivity measurements to determine degree of dissociation of weak electrolyte and pH of buffer solution. 5. To explain preparation and applications of emulsion and gels in chromatography.
NME	Working Principles of Internet	<ol style="list-style-type: none"> 1. To teach the basics of the World Wide Web 2. To understand the fundamentals of the Internet and the usage 3. To know the components of Multimedia on the internet 	<ol style="list-style-type: none"> 1. Understand the evolution of the Internet. 2. Know the basic knowledge of the web 3. Comprehend the protocols and standards used throughout the Internet. 4. Discuss a variety of Internet and WWW applications and related technologies. 5. Evaluate the opportunities and threats created by interconnecting computers via the Internet.
Major	Nuclear Physics	<ol style="list-style-type: none"> 1. To introduce basic concepts and properties of the atomic nucleus. 2. To impart knowledge of radioactivity and related phenomena. 3. To inculcate various interactions of nuclear radiation with matter. 4. To make the students understand the fission and fusion reactions and their applications. 	<ol style="list-style-type: none"> 1. Gather advanced knowledge in nuclear physics. 2. Explain the general properties of the nucleus, shell model and collective model 3. Gain knowledge to explain the radioactive decays and apply various aspects of nuclear reactions in view of compound nuclear dynamics. 4. Describe the working principles of nuclear detectors and accelerators 5. To explain the nuclear fusion, nuclear fission reaction and elementary particles.

		5. To emphasize the understanding of nuclear forces, nuclear models, elementary particles and accelerators.	
Major	Theoretical Physics	<ol style="list-style-type: none"> 1. To give an exposure to advanced topics in Physics and to learn the basis of fundamental principles and the Lagrangian formulation. 2. To enhance students understanding about relativity. 3. To build a strong base on the foundation of Quantum Mechanics. 4. To get acquainted with problem solving skills in the basic aspects of Lagrangian Mechanics, relativity and foundation of Quantum mechanics. 5. To provide a basic knowledge in the topic Universe. 	<ol style="list-style-type: none"> 1. Grown familiarity with the foundation of Classical Mechanics. 2. Develop problem solving skills in Mechanics. 3. Understand the basic formalism of Quantum Mechanics. 4. Understand mathematical implication in Physics. 5. Acquire basic knowledge about our Universe.
Major	Microprocessor and C programming	<ol style="list-style-type: none"> 1. To introduce algorithms and flowcharts for language independent programming logic development. 2. To provide fundamental knowledge on the Architecture and Instruction Set of 8085. 3. To impart the various features and components of C program writing. 	<ol style="list-style-type: none"> 1. Study of the basic structure and operation of a digital computer system. 2. Describe architecture of 8085 processors. 3. Write, compile and debug programs in assembly language 4. Develop algorithms for arithmetic and logical problems and write programs in Assembly and C language. 5. Design programs involving decision structures, loops, and arrays. 6. Create and perform different Programs

GS	Gender Studies	<ol style="list-style-type: none"> 1. To make students to aware of Gender constructions and gendering Process 2. To explore existing gender biases in the society and to understand the need to work towards the inclusive society 3. To inculcate sensitivity and build gender perspectives. 4. To use the course to bring attitudinal cum behavioral changes towards gender neutral ambience and promote the humanistic values 	<ol style="list-style-type: none"> 1. Students would have gained a perspective and understood the social reality of gender society understood the differences of gender and sex and may resort to building alternative perspectives and critical thinking. 2. Gained knowledge on the various social institutions governing gender and the intersectionality. 3. Exposed to the kind of initiatives of the State towards gender equality
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SRI SARADA NIKETAN COLLEGE FOR WOMEN

DEPARTMENT OF B.COM(CA)

April-2022-2023 ODD SEMESTER

Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
I SEM - First year			
Major	Principles Of Accountancy	To enable the students to understand the basic principles and concepts of Accountancy.	On successful completion of the subject, the students acquired knowledge about; The Concepts and Conventions of Financial Accounting.
Major	Marketing	To know the basic concepts and functions of marketing To learn about the buyer behaviour and new product development	Familiar with the basic concepts and functions of marketing Effective understanding of buyer behaviour and new product development
Allied	Pc Package	To know basics of computer, Creating and Editing Word Documents and other applications in word document	: Basics of computer, Creating and Editing Word Documents and Saving, opening, closing and protecting documents; and Mail Merge.
Non major	Value education	Value based education promotes tolerance and acceptance, teaching students to appreciate diversity and work .	Responsible and cooperative citizenship
III- SEM –SECOND YEAR			
Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
Major	Financial Accounting	To enable the students to know about financial accounting and its concepts.	Become knowledgeable on self balancing and sectional balancing ledgers and royalty account.
Allied	Introduction To Oracle And Sql	To enable the students to know about oracle and SQL with practical	On successful completion of the course, the students will acquire

		knowledge To educate HTML, Table and XML.	knowledge on:
Non major	Professional English II	develop students' competence in using English in workplace situations and enhance their creativity and employability skills	Identify literary techniques and creative uses of language in literary texts.
Non major	Basis Of Tourism	generate revenue, create employment opportunities, and stimulate economic development in both urban and rural areas.	increase in jobs, a higher quality of life for locals, and an increase in wealth of an area.
V SEM-III YEAR			
Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
Major	Corporate Accounting	To enable the students to know about accounting procedure in corporate accounting	To make learner to understand format of company final accounts and various schedules of company final accounts
Major	Auditing	To provide students an understanding about the principles and practice of Auditing	Student will understand the concept of auditing Describe on vouching
Major	Entrepreneurial Development	To enable the students to understand the conceptual and applied knowledge about Entrepreneurship.	To enhance a student to behave as a good businessman,
Major	Web Designing	To enable the students to understand the conceptual and applied knowledge about web designing.	Create an Information Architecture document for a web site.
Major	Office Management Tools	The aim is to generate revenue, create employment opportunities, and stimulate economic development in both urban and rural areas.	increase in jobs, a higher quality of life for locals, and an increase in wealth of an area.

Skill	Soft Skill Development	Develop effective communication skills (spoken and written). Develop effective presentation skills. Conduct effective business correspondence and prepare business reports which produce results.	The objectives of the Soft Skills Training Workbook are to give each student a realistic perspective of work and work expectations, to help formulate problem solving skillst.
Skill	Communication And Interpersonal Skills	Clarity and conciseness are two essential objectives of communication skills that enable you to express your thoughts and ideas effectively.	Communication skills impact our ability to persuade people – to enrol people in our ideas, our visions, and our visions.
Elective	E – Commerce	To make the students to know about e-commerce and its applications.	Identify the component parts of e-commerce Identify the benefits of selling online

EVEN SEMESTER

II SEM- FIRST YEAR

Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
Major	Management Concepts	To facilitate students, understanding of their own managerial skills for decision making.	To Understand the Evolution and theory of Management
Major	Business Tools For Decision Making	To impart introduction to statistics, and Measure of central tendency	On successful completion of the course, the students will acquire knowledge on
Non major	Pc Package (Practical)	To create and Edit Word Documents and other applications in word document.	On successful completion of the course, the students will acquire skill on:
Non major	Evs	Demonstrate mastery of core social science concepts and methods as they pertain to environmental problem-solving.	To impart basic knowledge about the environment and its allied problems.

Non major	Professional English	The course aims to develop students' competence in using English in workplace situations and enhance their creativity and employability skills	Adapt their texts to particular audiences and purposes. Articulate a thesis and present evidence to support it.
IV-SEM-SECOND YEAR			
Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
Major	Cost Accounting	Apply critical thinking skills by identifying and analyzing accounting issues using relevant accounting frameworks.	Provide requisite data and help in fixing the price of products manufactured or services rendered.
Non major	Internet & Web Application Practical	The primary purpose of the Internet is to facilitate the sharing of information. There are many different tools used on the Internet to make this possible.	The positive impacts of the internet include the following: It provides effective communication using emailing and instant messaging services to any part of the world.
Major	Banking theory law & practice	to provide liquidity which allows its investors to access money of known value for consumption purposes, a 'sum certain'.	At the end of the course, the student will be able to; understand the basic concepts of banks and functions of commercial banks
Non major	Cultural tourism	To facilitate and encourage those involved with heritage conservation and management to make the	increased cross-cultural understanding and tolerance, and negative outcomes, such as cultural homogenization

		significance of that heritage accessible to the host community and visitors.	and the loss of traditional practices and values.
VI-SEMESTER III-YEAR YEAR			
Major/Allied/non Major/skill	Name Of The Course	objectives	outcomes
Major	Management accounting	Analyze cost-volume-profit techniques to determine optimal managerial decisions.	The main objective of managerial accounting is to assist the management of a company in efficiently performing its functions: planning, organizing, directing, and controlling.
Major	Income tax theory law & practice	The main objectives of the Income Tax Act are promoting price stability, full employment, economic development, reduction of BOP difficulties, controlling cyclical fluctuations and non-revenue objectives.	Compute short term and long term capital gains of an Individual assessee who is involved in Business and Profession.
Major	Human resource management	Effectively manage and plan key human resource functions within organizations.	Examine current issues, trends, practices, and processes in HRM.
Major	Investment management	an approach that measures performance based on the achievement of desired outcomes rather than returns relative to specific benchmarks	The investment objectives help generate income and grow over a certain period of time. Investment includes bonds, stocks, PPF amongst others, which helps in growing money and providing an additional source of income.
Non major	Gender studies	Define and Evaluate gender as a social construct. Identify the ways gender, power, privilege, and	To prepare students to meet the needs of an increasingly ethnically and gender-diverse

		oppression play out across a range of cultures and human experiences	workplace.
Non major	Computerised accounting theory	the main objective of the computer system is to provide the best performance at a low cost. This means that the system should be efficient, effective, and cost-effective. Attention Computer Science Engineering (CSE) Students!	An ability to apply mathematics to solving computing problems. An ability to critically analyze a problem and to design, implement, and evaluate a computing solution that meets requirements. An ability to work effectively in small groups on medium scale computing projects.

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Sri Sarada Niketan College For Women-Karur-5

Department of BBA

NOVEMBER 2022-23 ODD SEMESTER

Major/Allied/non Major/skill	Name Of The Course	Objectives	Outcomes
I-BBA			
Major	Introduction To Management	To develop competencies and knowledge of students to become effective management professionals.	Apply the knowledge about management in the real life business situation.
Major	Fundamentals Of Accounting	To enable learners understand the fundamental concepts of Accounting.	Identify events that need to be recorded in the accounting records
Major	Managerial Economics	To identify the market structure and price determination at different market conditions.	Apply the objectives of business firms, demand analysis and elasticity of demand.
Non-Major	Value Education	Value- based education promotes tolerance and acceptance ,teaching students to appreciate diversity and collaboratively with others	Responsible and cooperative citizenship
II-BBA			
Major/Allied/non Major/skill	Name Of The Course	Objectives	Outcomes
Major	Computer Applications In Business	To enable students to understand the basic concepts in computer applications	Students gain the knowledge of computers
Allied	Business Law	To enlighten the students on the basic principles and legal aspects of business laws.	Understand the consequences of applicability of various laws on business situations.
Major	Managerial Communication	To understand the techniques and skills of communication To define the principles of effective communication. To analyze the essentials of good report writing.	The students will be aware of their communication skills and know their potential to become successful managers. The students will get enabled with the

			mechanics of writing and can compose the business letters in English precisely and effectively.
Non-Major	Professional English for commerce and Management-I	To develop the language skills of students by offering adequate practice in professional contexts. To enhance the lexical, grammatical and socio-linguistic and communicative competence of first year physical sciences students	Understand the importance of reading for life Read independently unfamiliar texts with comprehension
Non-Major	Tour Operation	Understand What Tourism Is And It Is Many Definition.	To Know Our Travel Agency And Tour Operator Business

III-BBA

Major/Allied/non Major/skill	Name Of The Course	Objectives	Outcomes
Major	Cost Accounting	To understand the basic concepts of cost accounting,	Understanding the concept of cost accounting, Recognize the merits and demerits of cost accounting along with the elements of cost concepts.
Major	Financial Management	To expose learners to various concepts and principles of financial management.	Demonstrate and understand the overall role and importance of Financial Functions..
Major	Company Law & Secretarial Practice	To understand the process of winding up and dissolution.	Develop the knowledge about the procedure for formation of company.
Major	Research Methods in Management	To comprehend the theoretical concepts and research logic.	To solve the problem by following proper research procedures.
Major	Service Marketing	Devise strategies for marketing services in the liberalized business environment.	Students gain knowledge about the basic concepts of Services marketing
Major	Marketing Management	To expose students to marketing concepts and trends in the market.	Students gain the Practical Knowledge to sell the goods.

EVEN SEMESTER

I-BBA

Major/Allied/non Major/skill	Name Of The Course	Objectives	Outcomes
Major	Business Mathematics And Statistics	To make students understand and the basic mathematical and statistical tools	Understand how differentiations are used as mathematical tools in Business.
Allied	Business Environment	To promote basic understanding of the concepts of business environment.	Develop an understanding on the gamut of the business activities.
Non-major	Environmental studies	Identify business opportunity and improving performance	Environmental scanning ,meaning ,nature,and scope
Non-major	Profesional English	Lead With Your Strongest Trait	Include Your Averige Graduate Score If Needed
Major	Marketing Management	To expose students to marketing concepts and trends in the market.	Students gain the Practical Knowledge to sell the goods.

II-BBA

Major/Allied/non Major/skill	Name Of The Course	Objectives	Objectives
Major	Organisational behaviour	to explain and predict human behaviour in organisations, so that result yielding situations can be created.	To develop creative and innovative ideas that could positively shape the organizations.
Allied	Operational research	to achieve the best performance under the given circumstances.	determining the extreme values of some real-world objective: the maximum (of profit, performance, or yield) or minimum (of loss, risk, or cost).
Non-major	Cultural tourism	collaboration with local organizations and the public to develop sustainable economies.	increased cross-cultural understanding and tolerance

III-BBA

Major/Allied/non Major/skill	Name Of The Course	Objectives	Objectives
Major	Human resource management	the goals set to manage and guide a company's workforce effectively.	Effectively manage and plan key human resource functions within organizations.

Major	Management accounting	to assist the management of a company in efficiently performing its functions: planning, organizing, directing, and controlling.	Analyze cost-volume-profit techniques to determine optimal managerial decisions.
Major	Entrepreneurial Development	personal objectives, business objectives, financial objectives and performance objectives	Entrepreneur is the actor, entrepreneurship is the act. The outcome of the actor and the act is called the enterprise.
Major	Management concepts in thirukkural	Ensure optimum utilization of resources to remove poverty and to increase the standard of living of people.	According to this principle, the business must tell the people clearly, what it tends to do. Rule of equivalent price: The customer should get proper value for their money. Below standard, outdated and inferior goods should not be sold at high prices.
Major	Global business management	to increase revenue, profitability, and market share by taking advantage of opportunities in the global market	What are the outcomes of business management? Conduct research to identify and analyze client needs and desires and make marketing recommendations regarding business decisions and use appropriate leadership skills and styles to maximize employee productivity.
Non-major	Gender Studies	Define and Evaluate gender as a social construct. Identify the ways gender, power, privilege, and oppression play out across a range of cultures and human experiences	To prepare students to meet the needs of an increasingly ethnically and gender-diverse workplace.

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Department of computer Science
November 2022- Odd Semester

Major/Allied/ Non Major Elective/Skill Based	Programme Paper Title	Program Objective	Program Outcomes
Semester -I Class-B.Sc(cs)-I year			
Major	Programming in C and Data Structure	<ul style="list-style-type: none"> ● To know about the basics of C Programming, Control and Looping Structures and programming with it. ● To understand Arrays, Pointers and String Processing in C language □ ● To know about the basic concepts in Data Structures. 	<ul style="list-style-type: none"> ● Summarize the basic knowledge to develop C programs □ Manipulate Looping, arrays and functions ● Apply and write programs for solving real world problems □ Create open, read, manipulate, write and close files. ● Understand the basic concepts in data structures..
Lab	PROGRAMMING IN C LAB	<ul style="list-style-type: none"> ● To understand the programming fundamentals of C language. □ ● To impart writing skill of C programming and data structures for a list of problems. □ ● To impart hands-on training for writing a C program using computers. 	<ul style="list-style-type: none"> ● Relate the use of language constructs to solve simple programs □ ● Develop programs for various concepts in C language □ Understand and trace the execution of the list of programs □ ● Understand the usage of file handling in C programming □ Solve data problems related to data structures.
Allied	Algebra and Calculus	<ul style="list-style-type: none"> ● To train the students to solve the problems in theory of equations □ ● To provide knowledge about the matrix, differentiation and various methods for evaluation of integrals. 	<ul style="list-style-type: none"> ● Train the students to solve the problems in theory of equations. ● Apply Cayley Hamilton theorem for finding the inverse of square matrices. □ ● Get exposed the basic concepts of differentiation and integration. ● Acquire the knowledge about differential equations.
Non-Major	Value Education	<ul style="list-style-type: none"> ● To understand the philosophy of life and values through Thirukural □ ● To analyse the components of values education to attain the sense of citizenship ● To understand different types of values towards National Integration and international understanding. ● To learn yoga as value education to promote mental and emotional health 	<ul style="list-style-type: none"> ● Apply the values in thirukural to be peaceful, dutiful and responsible in family and society □ ● Develop character formation and sense of citizenship □ ● Be secular, self-control, sincere, respectful and moral. □ ● Master yoga, asana and meditation to promote mental health □ Be attitudinal to follow the constitutional rights

Class- BCA			
		<ul style="list-style-type: none"> To understand human rights, women rights and other rights to promote peace and harmony 	
Major	Programming in C and Data Structure	<ul style="list-style-type: none"> To know about the basics of C Programming, Control and Looping Structures and programming with it. To understand Arrays, Pointers and String Processing in C language To know about the basic concepts in Data Structures. 	<ul style="list-style-type: none"> Summarize the basic knowledge to develop C programs □ Manipulate Looping, arrays and functions Apply and write programs for solving real world problems □ Create open, read, manipulate, write and close files. Understand the basic concepts in data structures..
Lab	PROGRAMMING IN C LAB	<ul style="list-style-type: none"> To understand the programming fundamentals of C language. □ To impart writing skill of C programming and data structures for a list of problems. □ To impart hands-on training for writing a C program using computers. 	<ul style="list-style-type: none"> Relate the use of language constructs to solve simple programs □ Develop programs for various concepts in C language □ Understand and trace the execution of the list of programs □ Understand the usage of file handling in C programming □ Solve data problems related to data structures.
Allied	Algebra and Calculus	<ul style="list-style-type: none"> To train the students to solve the problems in theory of equations □ To provide knowledge about the matrix, differentiation and various methods for evaluation of integrals. 	<ul style="list-style-type: none"> Train the students to solve the problems in theory of equations. Apply Cayley Hamilton theorem for finding the inverse of square matrices. □ Get exposed the basic concepts of differentiation and integration. Acquire the knowledge about differential equations
Non-Major	Value Education	<ul style="list-style-type: none"> To understand the philosophy of life and values through Thirukural □ To analyse the components of values education to attain the sense of citizenship To understand different types of values towards National Integration and international understanding To learn yoga as value education to promote mental and emotional health To understand human rights, women rights and other rights to promote peace and harmony 	<ul style="list-style-type: none"> Apply the values in thirukural to be peaceful, dutiful and responsible in family and society □ Develop character formation and sense of citizenship □ Be secular, self-control, sincere, respectful and moral. □ Master yoga, asana and meditation to promote mental health □ Be attitudinal to follow the constitutional rights

Major/Allied/Non Major Elective/Skill Based	Programme Paper Title	Program Objectives	Program Out Comes
Semester -III Class-B.Sc(cs)-II year			
Major	Programming in Java	<ul style="list-style-type: none"> To acquire the programming skills with java. □ To implement the object-oriented concepts with java language □ To learn the art of GUI programming with Applet. 	<ul style="list-style-type: none"> Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading. Identify members of a class and to implement them □ Create Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access control identifies, and create user define package for specific task,(reusability concepts) error exception handling) □ Develop programs using the Java standard class library. □ Develop software using Java programming language, (using applet, AWT controls, and JDBC).
Lab	Programming in Java	<ul style="list-style-type: none"> To understand the basics of JAVA programs and their execution. To learn concepts like inheritance, packages and interfaces. □ To understand the life cycle of the applets, database connectivity and their functionality. 	<ul style="list-style-type: none"> Develop java programs to understand the OOP concepts. □ Write java programs for classes and objects. □ Develop simple programs with multiple threads. □ Write java programs using Applets. □ Develop java programs to connect databases and files.
Allied	Applied Physics I	<ul style="list-style-type: none"> To bring out the subjects related with the computer field which help students to keep pace with these topics. □ To make the students understand the basic concepts of current electricity alternating current and the related laws. To enable the learners to acquire knowledge about four different number systems, conversion, Boolean algebra, Logic gates and semiconductor memories. 	<ul style="list-style-type: none"> Recall the basic concepts of current electricity and its various laws. □ Solve basic electronics problems with ac circuits that involve capacitance, inductance, impedance, reactance and power calculations. □ Differentiate all the four number systems studied. □ Review Boolean algebra and draw arithmetic circuits. Analyse the calibration of electrical instruments.

Non Major	Basic Of Tourism	<ul style="list-style-type: none"> ● The aim is to generate revenue, create employment opportunities, and stimulate economic development in both urban and rural areas. Tourism helps to generate foreign exchange earnings, promote entrepreneurship, and support various sectors such as hospitality, transportation, handicrafts, and services. 	<ul style="list-style-type: none"> ● Interpret and evaluate tourism as a phenomenon and business system. ● Explain the diverse nature of tourism, including culture and place, global/local perspectives, and experience design and provision. ● Identify and assess relationships and networks relative to building tourism capacity.
Major	Programming in Java	<ul style="list-style-type: none"> ● To acquire the programming skills with java. □ ● To implement the object-oriented concepts with java language □ ● To learn the art of GUI programming with Applet. 	<ul style="list-style-type: none"> ● Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading. ● Identify members of a class and to implement them □ ● Create Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access control identifies, and create user define package for specific task,(reusability concepts) error exception handling) ● Develop programs using the Java standard class library. □ ● Develop software using Java programming language, (using applet, AWT controls, and JDBC).
Lab	Programming in Java	<ul style="list-style-type: none"> ● To understand the basics of JAVA programs and their execution. □ ● To learn concepts like inheritance, packages and interfaces. □ ● To understand the life cycle of the applets, database connectivity and their functionality. 	<ul style="list-style-type: none"> ● Develop java programs to understand the OOP concepts. □ ● Write java programs for classes and objects. □ ● Develop simple programs with multiple threads. □ ● Write java programs using Applets. □ ● Develop java programs to connect databases and files.
Allied	Principles Of Accounting	<ul style="list-style-type: none"> ● To enable the students to understand the basic principles and concepts of Accountancy. □ ● To gain the knowledge to prepare the Cash Book and Bank Reconciliation statement. □ ● To enhance the students to prepare the Final accounts for Sole Traders 	<ul style="list-style-type: none"> ● The Concepts and Conventions of Financial Accounting. □ ● Preparation of Accounts of cash book. ● Accounting for sole traders with adjustment entries. □ ● Rectification of Errors. □ Preparation of Bills of Exchange.

		<ul style="list-style-type: none"> To help students gain knowledge about Rectification of errors. □ In overall students can acquire conceptual knowledge and prepare the Bills of Exchange. 	
Non Major	Basic Of Tourism	<ul style="list-style-type: none"> The aim is to generate revenue, create employment opportunities, and stimulate economic development in both urban and rural areas. Tourism helps to generate foreign exchange earnings, promote entrepreneurship, and support various sectors such as hospitality, transportation, handicrafts, and services. 	<ul style="list-style-type: none"> Interpret and evaluate tourism as a phenomenon and as a business system. Explain the diverse nature of tourism, including culture and place, global/local perspectives, and experience design and provision. Identify and assess relationships and networks relative to building tourism capacity.

Major/Allied/Non Major Elective/Skill Based	Programme Paper Title	Program Objectives	Program Out Comes
Semester -V Class-B.Sc(cs)-III year			
Major	Data Structure and Algorithms	<ul style="list-style-type: none"> To understand the concepts of Data Structures and Algorithms. 	<ul style="list-style-type: none"> After studying this course, students will be able: To demonstrate an understanding of computer programming language concepts. To define data types and use them in data processing applications.
Major	Computer Networks	<ul style="list-style-type: none"> □ To describe the general principles of Computer Networks. □ To describe how the different layers in a computer network work □ To know about Wired LAN; IEEE Standards and Satellite networks. 	<ul style="list-style-type: none"> Recall the basic concepts of computer networks □ Summarize the technical specifications of various layers of the OSI model in a computer network □ Identify the appropriate protocols and standards for computer networks □ Classify technical factors of cellular networks and satellite communication □ Know about the different functionalities of an application layer.
Major	Digital Electronics and Micro Processor	<ul style="list-style-type: none"> To impart knowledge about the basics of Digital Systems □ To focus on the study of Boolean algebra, Combinational circuits. □ To impart knowledge about basic parts and functions of 	<ul style="list-style-type: none"> Understand about various number systems □ Know about Boolean Algebra and Logic Gates Draw and explain Combinational circuits □ Explain the Evolution of Microprocessors □ Use the Instruction Set of Intel 8085 in simple programs.

		microprocessor and to have an understanding of the Registers, Interrupts, Interfaces, Buses, Pins, Instructions of 8085 microprocessor	
Lab	DIGITAL ELECTRONICS AND MICROPROCESSOR LAB	<ul style="list-style-type: none"> ● To have hands-on experience with digital electronics concepts. □ ● To experiment the design of basic logic circuits, combinational and sequential circuits □ ● To write ALP and to execute them with a microprocessor kit. 	<ul style="list-style-type: none"> ● Verify the logic gate and the working of Adder subtractors □ ● Construct and study the function of Shift registers □ ● Understand the working of Up Down Counters □ ● To write simple ALPs and execute them □ ● To manipulate an array with ALP. ****
Elective	Software Engineering	<ul style="list-style-type: none"> ● To impart knowledge in the life cycle of software engineering □ ● To learn about Requirements Analysis Modeling, Basic Issues in Software Design and Software coding □ ● To acquire exposure in Web Engineering 	<ul style="list-style-type: none"> ● Recall the various techniques of software process models. □ ● Understand the requirements for a software project. □ ● Develop frameworks for software projects. □ ● Apply the knowledge, techniques, and skills in the development of a software product. □ Make use of web engineering concepts for software development.
Skill Based	Sales Management	<ul style="list-style-type: none"> ● The course aims to impart skills and knowledge needed to manage sales force and distribution function so as to gain competitive advantage. 	<ul style="list-style-type: none"> ● At the end of the course the students will be able to: ● Recognize and demonstrate the significant responsibilities of sales person as key individual ● Understand the basic concepts and techniques of selling and their applications to managerial decision makings in the field ● Describe and formulate strategies to effectively manage company's sales operations ● Evaluate the role of Sales manager and his/ her responsibilities in recruiting, motivating, managing and leading sales team

Skill Based	Retail Management	<ul style="list-style-type: none"> ● The primary objective of the course is to have students develop marketing competencies in retailing and retail consulting. ● The course is designed to prepare students for positions in the retail sector or positions in the retail divisions of consulting companies. ● Besides learning more about retailing and retail consulting, the course is designed to foster the development of the student's thinking skills. 	<ul style="list-style-type: none"> ● Clarify the concept and related terms in retailing. ● Comprehend the ways retailers use marketing tools and techniques to interact with their customers. ● Understand various formats of retail in the industry.
Skill Based	Soft Skill Development	<ul style="list-style-type: none"> ● To Develop communicative competence among the Students. □ ● To enhance the learner's soft skills by giving adequate exposure in LSRW and sub skills. □ ● To enable learners to put the life skills into practice with confidence. 	<ul style="list-style-type: none"> ● Develop listening, speaking, reading and writing skills in English. □ ● Enhance soft skills and engage in a range of communicative tasks and activities □ ● Comprehend a text and identify specific and global information □ Promote communicative ability in both spoken and written form of the language □ ● Develop interpersonal skills to maintain human relationship □ ● Develop corporate skills to promote leadership qualities and team spirit.
Class- BCA			
Major	Data Structure and Algorithms	<ul style="list-style-type: none"> ● To understand the concepts of Data Structures and Algorithms. 	<ul style="list-style-type: none"> ● After studying this course, students will be able ● To demonstrate an understanding of computer programming language concepts. ● To define data types and use them in data processing applications.
Major	Operating Systems	<ul style="list-style-type: none"> ● To understand the basics of Operating systems and their working ● To Learn and understand operating system services and methods □ ● To understand the different 	<ul style="list-style-type: none"> ● Recall the basic principles and importance of the operating system in a computer □ ● Illustrate the objectives and functions of the operating system components □ ● Identify the various operating system techniques ● Analyse the issues and challenges of the operating system and security mechanisms □ Evaluate the functions and

		types of devices connected with Operating systems.	features of file management in operating systems
Major	Digital Fundamentals Computer	<ul style="list-style-type: none"> The course aims to teach a student the fundamental components used in a Digital Computer and its functioning. 	<ul style="list-style-type: none"> Identify the logic gates and their functionality. Perform number conversions from one system to another system. Design basic electronic circuits (combinational circuits). Perform a comparative analysis of the components of different memory units. Perform number conversions.
Elective	Software Engineering	<ul style="list-style-type: none"> To impart knowledge in the life cycle of software engineering To learn about Requirements Analysis Modeling, Basic Issues in Software Design and Software coding To acquire exposure in Web Engineering 	<ul style="list-style-type: none"> Recall the various techniques of software process models. Understand the requirements for a software project. Develop frameworks for software projects. Apply the knowledge, techniques, and skills in the development of a software product. Make use of web engineering concepts for software development.
Skill Based	Sales Management	<ul style="list-style-type: none"> The course aims to impart skills and knowledge needed to manage sales force and distribution function so as to gain competitive advantage. 	<ul style="list-style-type: none"> At the end of the course the students will be able to: Recognize and demonstrate the significant responsibilities of sales person as key individual Understand the basic concepts and techniques of selling and their applications to managerial decision makings in the field Describe and formulate strategies to effectively manage company's sales operations Evaluate the role of Sales manager and his/her responsibilities in recruiting, motivating, managing and leading sales team

Skill Based	Retail Management	<ul style="list-style-type: none"> ● The primary objective of the course is to have students develop marketing competencies in retailing and retail consulting. ● The course is designed to prepare students for positions in the retail sector or positions in the retail divisions of consulting companies. Besides learning more about retailing and retail consulting, the course is designed to foster the development of the student's thinking skills. 	<ul style="list-style-type: none"> ● Clarify the concept and related terms in retailing. ● Comprehend the ways retailers use marketing tools and techniques to interact with their customers. ● Understand various formats of retail in the industry.
Skill Based	Soft Skill Development	<ul style="list-style-type: none"> ● To Develop communicative competence among the Students. □ ● To enhance the learner's soft skills by giving adequate exposure in LSRW and sub skills. □ ● To enable learners to put the life skills into practice with confidence. 	<ul style="list-style-type: none"> ● Develop listening, speaking, reading and writing skills in English. □ ● Enhance soft skills and engage in a range of communicative tasks and activities □ ● Comprehend a text and identify specific and global information □ Promote communicative ability in both spoken and written form of the language □ ● Develop interpersonal skills to maintain human relationship □ ● Develop corporate skills to promote leadership qualities and team spirit.

Major/Allied/Non Major Elective/Skill Based	Programme Paper Title	Program Out Comes	Program Objectives
Semester -I Class- MCA- I year			
Allied	Mathematical foundation and fundamentals Computer	<ul style="list-style-type: none"> ● Understand the Mathematical logics and Predicate Calculus □ ● To learn the mathematical foundations applicable to computing □ ● Understand the basics of language and its Grammar 	<ul style="list-style-type: none"> ● Solve the problems using truth table technique, rules of inference method. ● □ Apply the concepts of Set theory and Relation □ ● Demonstrate the basics of groups and sub groups. □ ● Apply the Graph theory concepts in Computer Network and Computer Graphics. □ ● Ability to understand and construct languages.

Major	Design and Analysis of algorithms	<ul style="list-style-type: none"> To analyse the performance of algorithms under various scenarios. □ To learn mathematical background for algorithm analysis & solving the recurrence equations. □ To learn various algorithm design techniques. 	<ul style="list-style-type: none"> Determine the suitable algorithmic design technique for a given problem. □ Identify the limitations of algorithms in problem solving □ Analyze the efficiency of the algorithm based on time and space complexity. □ Implement asymptotic notations to analyze worst-case and average case running times of algorithms. □ Interpret the fundamental needs of algorithms in problem solving.
Major	Advanced Programming Java	<ul style="list-style-type: none"> Apply JFC to develop web applications using controls □ Apply servlet to create server side scripting applications □ Understand and develop Transaction applications 	<ul style="list-style-type: none"> Understand the classes and object, multithreading and interface of java □ Understand the generic of java for the advanced programming □ Understand Java foundation classes □ Develop server applications using servlet □ Design and develop EJB for transaction in business services.
practical	Advanced Programming LAB Java	<ul style="list-style-type: none"> To create a fully functional window based applications. To develop GUI applications like Calculator, Notepad, Simple user forms, and Designing and implementing Component based application like Jelly Beans, Color bean, and also designing of server side pages, client server interactions with TCP. 	<ul style="list-style-type: none"> Student can able to Designing of window based applications. ♦ Student can able to create a client and server communication using net package. ♦ Student can able to design reusable software components using java beans.
Major	OOAD and Design Paterns	<ul style="list-style-type: none"> To describe the object-oriented software development process, including object-oriented methodologies and work flow □ To emphasizes on Object Oriented software design and application of design paterus □ To explain various UML diagrams 	<ul style="list-style-type: none"> Analyze the requirements and generate use cases □ Perform Object oriented analysis □ Perform overall design using various UML diagrams □ Understand the Guidelines for Class Design □ Understand different forms of Patterns

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Elective	Hardware and Networking Essentials	<ul style="list-style-type: none"> ● The main learning objectives of a Networking Essentials course include understanding core networking concepts, ● developing technical proficiency in networking, and gaining practical skills. 	<ul style="list-style-type: none"> ● Know the basic components of computer system <input type="checkbox"/> ● Understand the PC architecture and assemble the PC <input type="checkbox"/> ● Acquire the knowledge of storage devices <input type="checkbox"/> Know the fundamentals of computer networks <input type="checkbox"/> ● Understand the functions of network connectivity devices.
Semester -III Class- MCA- II year			
Major	Programming in Smart device	<ul style="list-style-type: none"> ● To provide ability to develop applications for smart devices using android; ● Ability to handle operation of the application, configuration files, intents, and activities; Ability to work with UI-component layouts, event handling, and screen orientations; Ability to appreciate android framework and features; Ability to design interfaces like Buttons, Menus, and Dialogs; ● Ability to design different types of screen layouts in android. 	<p>The students would have the knowledge and ability to develop applications for smart devices using android; Ability to handle operation of the application, configuration files, intents, and activities; Ability to work with UI-component layouts, event handling, and screen orientations; Ability to appreciate android framework and features; Ability to design interfaces like Buttons, Menus, and Dialogs; Ability to design different types of screen layouts in android.</p>
Major	Compiler Design	<ul style="list-style-type: none"> ● Discover principles, algorithms and techniques that can be used to construct various phases of compiler. <input type="checkbox"/> ● Acquire knowledge about finite automata and regular expressions <input type="checkbox"/> ● Explore knowledge about Syntax Directed definitions and translation scheme 	<ul style="list-style-type: none"> ● Understand the basic principles of compiler design. <input type="checkbox"/> ● Learn context free grammars, compiler parsing techniques. <input type="checkbox"/> Use the knowledge of patterns, tokens & regular expressions for solving a problem in the field of data mining. <input type="checkbox"/> ● Specify and analyse the lexical, syntactic and semantic structures of advanced language features. <input type="checkbox"/> ● Separate the lexical, syntactic and semantic analysis into meaningful phases for a compiler to undertake language translation.

Major	Principles of Data science	<ul style="list-style-type: none"> To offer basic concepts and variety of data; Mathematical and Statistical ideas to manipulate data; to communicate the results using various forms of visualisation and predict using basic Data Mining techniques. 	<ul style="list-style-type: none"> The students would have grasped the basic concepts and variety of data; Mathematical and Statistical ideas to manipulate data; learnt to communicate the results using various forms of visualisation and be able to predict using basic Data Mining techniques.
Practical	Programming Smart Device lab	<ul style="list-style-type: none"> To offer hands-on training in designing and developing Android applications to use and demonstrate the facilities available in the Android development environment. 	<ul style="list-style-type: none"> The students would have familiarised themselves in the usage and application development of small applications as listed above.
Practical	R-Programming Lab	<ul style="list-style-type: none"> To offer hands-on training the R-environment to use the facilities to handle variety of data and to display the results in the form of charts and graphs. 	<ul style="list-style-type: none"> The students would have become familiar with the development of programs in R environment to accept input in many forms, process them and display the results in charts or graphs and also in applying statistical techniques.
Non-Major	Organizational Behaviour	<ul style="list-style-type: none"> To familiarize the students to understand the basic concepts of organizational structure and its behaviour; to understand the Human Behaviour and Perception; Develop the Attitudes, Formation factors and attitude changes; Equip the students in building the Perceptual Interpretation and Motivation; Have the group decision making and analysis; Acquire knowledge and capability to develop communication skills; Equip their Leadership skills 	<ul style="list-style-type: none"> The students would have understand the basic concepts of organizational structure and its behaviour; understood the Human Behaviour and Perception;

concepts and
ideas to
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		through various activities; Have the knowledge about organizational structure and projects.	
Major	Big Data Analytics	<ul style="list-style-type: none">● To provide grounding in basic and advanced methods to big data technology and tools. □● To gain knowledge about MapReduce and Hadoop and its ecosystem. □● To understand Advanced analytical theory and methods.	<ul style="list-style-type: none">● Apply Hadoop ecosystem components. □ Participate data science and big data analytics projects □● Understand the core objective of the Big Data Framework is to provide a structure for enterprise organizations that aim to benefit from the potential of Big Data. □● Understand the Big Data that is more than just the combination of skilled people and technology – it requires structure and capabilities. □ Gain the knowledge about Technology and Tools for Advanced Analytics.

S. K. Srinivasan
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N. K. Srinivasan
SIGNATURE OF THE Principal

Department of Computer Science
April 2023- Even Semester

Major/Allied/Non Elective/Skill Based	Major	Programme Paper Title	Program Objectives	Program Outcomes
Semester -II Class: B.Sc(es) I year				
Major	Programming in Java	<ul style="list-style-type: none"> <input type="checkbox"/> To acquire the programming skills with java. <input type="checkbox"/> To implement the object oriented concepts with java language <input type="checkbox"/> To learn the art of GUI programming with Applet. 	<p>Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.</p> <p>Identify members of a class and to implement them</p> <p>Create Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access control identifies, and create user define package for specific task,(reusability concepts) error exception handling)</p> <p>Develop programs using the Java standard class library.</p> <p>Develop software using Java programming language, (using applet, AWT controls, and JDBC)</p>	
Lab	Programming in Java lab	<p>To understand the basics of JAVA programs and their execution.</p> <p>To learn concepts like inheritance, packages and interfaces.</p> <p>To understand the life cycle of the applets, database connectivity and their functionality.</p>	<p>Develop java programs to understand the OOP concepts.</p> <p>Write java programs for classes and objects</p> <p>Develop simple programs with multiple threads</p> <p>Write java programs using Applets</p> <p>Develop java programs to connect databases and files.</p>	

Major	Numerical Analysis	<p>To learn knowledge about an algebraic and transcendental equations. □</p> <p>To make the students gain wide knowledge in probability which plays a main role in solving real life problems.</p>	<p>Solve algebraic and transcendental equations. □</p> <p>Appreciate the importance of probability of random variables and understand the correlation and regression coefficients.</p>
Allied	Operations research	<p>To learn the basic concepts about Linear Programming Problem, Transportation Problem Assignment Problem, Sequencing Problem and Network. □ To make students solve real life problems in Business and Management.</p>	<p>Acquire the basic concepts of LPP. □ Apply various methods for finding a solution of an LPP. □ Use the basic concepts of TP, AP and Network Problems to develop the problem solving skills.*</p>
Non-Major	Environmental studies	<p>To appreciate the scope of Environmental Studies, Community ecology and the interdisciplinary nature of environmental issues □ To have a basic knowledge of Natural resources its classification, concepts, and natural resources of India. □ The course designed to gain knowledge on values of biodiversity and conservation on global, national, and local scales □ To study about sources and effects of environmental pollution like air, water, soil, thermal, marine, nuclear and noise □ To understand the concerns related to Sustainable Development on environment and health □ To introduce the students in the field of Law and Policies and Acts both at the national and international level relating to environment.</p>	<p>Understand the environmental importance including interactions across local to global scales. □ The learners to update and analyze environmental relationships and interactions of environmental components □ The student to gain knowledge on importance of natural resources in a systematic way. □ The course content is introduce the concept of renewable and non-renewable energy resources and its scenario in India and at global level</p>
Class: BCA			
Major	Programming in Java	<p>To acquire the programming skills with java.</p> <p>To implement the object oriented concepts with java language</p> <p>To learn the art of GUI programming with Applet.</p>	<p>Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.</p> <p>Identify members of a class and to implement them</p> <p>Create Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program</p>

			<p>structuring (e.g., by using access control identifies, and create user define package for specific task,(reusability concepts) error exception handling)</p> <p>Develop programs using the Java standard class library.</p> <p>Develop software using Java programming language, (using applet, AWT controls,and JDBC)</p>
Lab	Programming in Java lab	<p>To understand the basics of JAVA programs and their execution.</p> <p>To learn concepts like inheritance, packages and interfaces.</p> <p>To understand the life cycle of the applets, database connectivity and their functionality,</p>	<p>Develop java programs to understand the OOP concepts.</p> <p>Write java programs for classes and objects</p> <p>Develop simple programs with multiple threads</p> <p>Write java programs using Applet</p> <p>Develop java programs to connect databases and files.</p>
Major	Numerical Analysis	<p>To learn knowledge about an algebraic and transcendental equations. □</p> <p>To make the students gain wide knowledge in probability which plays a main role in solving real life problems.</p>	<p>Solve algebraic and transcendental equations. □</p> <p>Appreciate the importance of probability of random variables and understand the correlation and regression coefficients. *****</p>
Allied	Operations research	<p>To learn the basic concepts about Linear Programming Problem, Transportation Problem Assignment Problem, Sequencing Problem and Network. □</p> <p>To make students solve real life problems in Business and Management.</p>	<p>Acquire the basic concepts of LPP.</p> <p>Apply various methods for finding a solution of an LPP. □</p> <p>Use the basic concepts of TP, AP and Network Problems to develop the problem solving skills.</p>
Non-Major	Environmental studies	<p>To appreciate the scope of Environmental Studies, Community ecology and the interdisciplinary nature of environmental issues □</p> <p>To have a basic knowledge of Natural resources its classification, concepts, and natural resources of India. □</p> <p>The course designed to gain knowledge on values of biodiversity and conservation on global, national, and local scales □ To study</p>	<p>Understand the environmental importance including interactions across local to global scales. □</p> <p>The learners to update and analyze environmental relationships and interactions of environmental components □</p> <p>The student to gain knowledge on importance of natural resources in a systematic way. □</p> <p>The course content is introduce the concept</p>

		<p>about sources and effects of environmental pollution like air, water, soil, thermal, marine, nuclear and noise □</p> <p>To understand the concerns related to Sustainable Development on environment and health □</p> <p>To introduce the students in the field of Law and Policies and Acts both at the national and international level relating to environment.</p>	<p>of renewable and non-renewable energy resources and its scenario in India and at global level □</p> <p>The students will know the relationship between biodiversity and ecosystem functions, direct and indirect values of biodiversity resources and their bioprospecting opportunities. □</p> <p>The learners can gain awareness related on environmental pollution, causes and pollution control with case studies. □</p> <p>Student to obtain the environmental ethics and gain knowledge about the sustainable development. □</p> <p>Learners should realize the environmental legislation and policies of national and international regime and know the regulations applicable to industries and other organizations with significant Environmental aspects</p>
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Major/Allied/Non Major Elective/Skill Based	Programme Paper Title	Program Out Comes	Program Objectives
Semester -IV Class: B.Sc(cs) II year			
Major	Database Systems	<p>To impart the basic database concepts, applications, data models, scheme and instances.</p> <p>To familiarize Entity Relationship model for a database.</p> <p>To Demonstrate the use of constraints and relational algebra operations.</p>	<p>Understand the basic concepts of Database Systems</p> <p>Know about SQL queries to interact with Database</p> <p>Design a Database using ER Modelling</p> <p>Apply normalization on database design to eliminate anomalies</p> <p>Analyze database transactions and to</p>
Lab	Database practical Systems	<p>To understand the basic concepts and the applications of database systems using MYSQL.</p> <p>To create and perform basic</p>	<p>Write queries to manipulate data.</p> <p>Demonstrate the aggregate functions and set operations.</p> <p>Apply the join operations.</p>

		operation with MYSQL. To interact with MYSQL by using nested queries, set of aggregate operations and views.	Know about usage of nested subqueries Understand the method to create views
Allied	Applied physics-II	To impart knowledge of certain important fields of physics by simplifying the learning process to a greater extent □ To make the students understand how Laser and Maser is powerful than normal light, their types and its advantages. □ To inculcate the knowledge of transistor and different configurations, H parameters and applications of FET amplifier.	Understand the rapid growth of electronic technology. □ Know the semiconductors classification and their applications in various domains. □ Analyse the characteristics of transistor, transistor biasing circuits and oscillator circuits. □ Evaluate the advantages of Opto-Electronic Devices. □ Demonstrate analog electrical devices, particularly operational amplifiers and their applications applying the learnt concepts.
Lab	Applied Physics practicals	To familiarize students with basic laboratory equipment to study the physics concepts encountered in the lecture course. □ To give knowledge of some basic electronic components and circuits. □ To promote the exhaustive requirements and expectations of the students to acquire practical knowledge for the theory given in their syllabus.	Gain the practical knowledge about electricity, magnetism and measurements such as resistance, voltage, current. □ Distinguish electronic components □ Construct the learnt electronic circuits on their own □ Analyze the logic gates and their usage in digital circuits. □ Develop the skill of conducting an experiment collaboratively.
Non-major	Cultural tourism	To gain the knowledge of Cultural Resources. 2. To understand the idea of Cultural Festivals 3. To get the knowledge of Cultural destinations	Successful completion of this course will lead the students to appropriate knowledge in Cultural Tourism.
Skill based	Sales and Marketing Management	The course aims at making students understand concepts, philosophies, processes and techniques of managing the marketing operations of a firm.	To give fair idea about the duties of officials.
Class: II BCA			
Major	Database Systems	To impart the basic database concepts, applications, data models, schemas and instances. To familiarize Entity Relationship model for a database. To Demonstrate the use of constraints and relational algebra operations.	Understand the basic concepts of Database Systems Know about SQL queries to interact with Database Design a Database using ER Modelling Apply normalization on database design to eliminate anomalies Analyze database transactions and to

Allied	Computer Application in Business - Theory	To enable the students to know the importance of computer application in business.	To prepare learners for Higher Education in Commerce Business Studies. □ To provide contextually relevant commerce Education □ To impart state of art knowledge in subject
Lab	Computer Application in Business - Lab	To understand the concepts of Management Accounting. □ To gain knowledge on Ratio Analysis in business operation. □ To understand Fund Flow Statement in Business organization. □ To know the Cash Flow Statement. □ To know about the Budget and Budgetary Control.	Basic knowledge on Management Accounting. □ Ratio Analysis in business operation Select better Design various types of Budget
Allied	Organizational behaviour	This course deals with human behavior in organizations. Conceptual frameworks, case discussions, and skill-oriented activities applied to course topics which include: motivation, learning and development, group dynamics, leadership, communication, power and influence, change, diversity, organizational design, and culture. Class sessions and assignments are intended to help participants acquire skills and analytic concepts to improve organizational relationships and effectiveness.	On completion of this course, learners will be able to: 1. Recognize and discuss the different perspectives of working culture in organizations. 2. Interpret key concepts and theories with regard to individual differences and apply these appropriately to specific situations. 3. Interpret the key concepts and theories with regard to group behaviour and apply these appropriately to specific situations. 4. Understand how organizational performance can be improved through the effective management of human resources.
Non-major	Cultural tourism	To gain the knowledge of Cultural Resources. To understand the idea of Cultural Festivals To get the knowledge of Cultural destinations.	Successful completion of this course will lead the students to appropriate knowledge in Cultural Tourism.
Skill based	Sales and Marketing Management	The course aims at making students understand concepts, philosophies, processes and techniques of managing the marketing operations of a firm.	To give fair idea about the duties of officials.

Major/Allied/Non Elective/Skill Based	Major	Programme Title	Paper	Program Out Comes	Program Objectives
Semester -VI Class: B.Sc(cs) III year					
Major		Operating Systems		<p>To understand the basics of Operating systems and their working</p> <p>To Learn and understand operating system services and methods</p> <p>To understand the different types of devices connected with Operatingsystems.</p>	<p>Recall the basic principles and importance of the operating system in a computer</p> <p>Illustrate the objectives and functions of the operating system components</p> <p>Identify the various operating system techniques</p> <p>Analyse the issues and challenges of the</p>

			operating system and security mechanisms Evaluate the functions and features of file management in operating systems
Major	Programming PHP	in To understand the basics of PHP and Ajax To know about various constructs available in PHP To understand and Implement the AJAX based dynamic client-server interaction	Understand the fundamental knowledge of developing web applications with PHP. Illustrate the advanced concepts like strings, arrays and functions Design Web based applications. Analyze and solve various database tasks using PHP. Develop AJAX based applications
Lab	Programming PHP lab	in To acquire the programming experience in PHP To apply variables, strings, and constants to a PHP a script and test it with a program. To design an authentication web page in PHP with MySQL	Learn PHP programming on handling strings and arrays. Design web pages for different applications with MYSQL Handle files, sessions and cookies by downloading a file from the server. Develop real-time applications. Gain experience in drawing images using Ajax.
Major	Cloud computing	To provide understanding the concepts & technologies associated with Cloud Computing.	Great Availability of Resources □ On-demand Self-service □ Easy Maintenance □ Large Network Access □ Availability □ Automatic System
Lab	Dot Net lab	The main Objective of this course is student know about windows, Web and Console Applications.	Display proficiency in C# by building stand-alone applications in the .NET framework using C#. Create distributed data-driven applications using the .NET Framework, C#, SQL Server and ADO.NET CO3 Create web-based distributed applications using C#, ASP.NET, SQL Server and ADO.NET CO4 Utilize DirectX libraries in the .NET environment to implement 2D and 3D animations and
Non-Major	Gender studies	To make students to aware of Gender constructions and gendering Process □ To explore existing gender biases in the society and to understand the need to work towards the inclusive society □ To inculcate sensitivity and build gender perspectives. □ To use the course to bring attitudinal cum behavioral changes towards gender neutral ambience and promote the humanistic values	Students would have gained a perspective and understood the social reality of gender society understood the differences of gender and sex and may resort to building alternative perspectives and critical thinking. □ Gained knowledge on the various social institutions governing gender and the intersectionality. □ Exposed to the kind of initiatives of the State towards gender equality

Class: III BCA

Major	Computer Networks	<p>To describe the general principles of Computer Networks.</p> <p>To describe how the different layers in a computer network work</p> <p>To know about Wired LAN: IEEE Standards and Satellite networks.</p>	<p>Recall the basic concepts of computer network</p> <p>Summarize the technical specifications of various layers of the OSI model in a computer network</p> <p>Identify the appropriate protocols and standards of computer networks</p> <p>Classify technical factors of cellular networks and satellite communication</p> <p>Know about the different functionalities of an application layer.</p>
Major	Programming in PHP	<p>To understand the basics of PHP and Ajax</p> <p>To know about various constructs available in PHP</p> <p>To understand and implement</p>	<p>Understand the fundamental knowledge of developing web applications with PHP.</p> <p>Illustrate the advanced concepts like strings, arrays and functions</p> <p>Design Web based applications.</p> <p>Analyze and solve various database tasks using PHP.</p>
Lab	Programming in PHP lab	<p>To acquire the programming experience in PHP</p> <p>To apply variables, strings, and constants to a PHP a script and test it with a program.</p> <ul style="list-style-type: none"> □ To design an authentication web page in PHP with MySQL. 	<p>Learn PHP programming on handling strings and arrays.</p> <p>Design web pages for different applications with MYSQL</p> <p>Handle files, sessions and cookies by downloading a file from the server,</p> <p>Develop real-time applications.</p> <p>Gain experience in drawing images using Ajax.</p>
Major	Cloud computing	To provide understanding the concepts & technologies associated with Cloud Computing.	<p>Great Availability of Resources □ On-demand Self-service</p> <p>□ Easy Maintenance □ Large Network Access □ Availability □ Automatic System</p>
Lab	Dot Net lab	The main Objective of this course is student know about windows, Web and Console Applications.	<p>Display proficiency in C# by building stand-alone applications in the .NET framework using C#.</p> <p>Create distributed data-driven applications using the .NET Framework, C#, SQL Server and ADO.NET CO3</p> <p>Create web-based distributed applications using C#, ASP.NET, SQL Server and ADO.NET CO4 Utilize DirectX libraries in the .NET environment to implement 2D and 3D animations and</p>
Non-Major	Gender studies	To make students to aware of Gender constructions and gendering Process □ To explore existing gender biases in the society and to understand the need to work towards the inclusive society. □ To	<p>Students would have gained a perspective and understood the social reality of gender society understood the differences of gender and sex and may resort to building alternative perspectives and critical thinking. □ Gained knowledge on</p>

		<p>inculcate sensitivity and build gender perspectives.</p> <p>□ To use the course to bring attitudinal cum behavioral changes towards gender neutral ambience and promote the humanistic values</p>	<p>the various social institutions governing gender and the inter sectionality. □ Exposed to the kind of initiatives of the State towards gender equality</p>
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Major/Allied/Non Elective/Skill Based	Major	Programme Title	Paper	Program Out Comes	Program Objectives
Semester -II Class- MCA- I year					
Major		Emerging Technologies		Emerging technologies play a vital role in the modernization of industries. New technologies help in transforming enterprises into a digital world. This technology is mainly helpful in manufacturing, energy and mobility markets.	Apply knowledge of computing fundamentals, mathematics and domain specific knowledge for modelling, designing and developing the solution from defined problems and requirements.
Major		Advanced Operating systems		To study, learn, and understand the main concepts of advanced operating systems (parallel processing systems, distributed systems, real time systems, network operating systems, and open source operating systems) Hardware and software features that support these systems.	<ol style="list-style-type: none"> 1. Understand the design approaches of advanced operating systems 2. Analyze the design issues of distributed operating systems. 3. Evaluate design issues of multi processor operating systems. 4. Identify the requirements Distributed File System and Distributed Shared Memory. 5. Formulate the solutions to schedule the real time applications.
Major		Computer graphics and Animation		<ol style="list-style-type: none"> 1. The main objective of the course is to introduce students with fundamental concepts and theory of computer graphics. 2. It presents the important drawing algorithm, polygon fitting, clipping and 2D transformation curves and an introduction to 3D transformation. 3. It provides the basics of OpenGL application programming interface which allows students to develop programming skills in CG. 	<ol style="list-style-type: none"> 1. Explain the applications, areas, and graphic pipeline, display and hardcopy technologies. 2. Apply and compare the algorithms for drawing 2D images also explain aliasing, anti aliasing and half toning techniques. 3. Discuss OpenGL application programming Interface and apply it for 2D & 3D computer graphics. 4. Analyze and apply clipping algorithms and transformation on 2D images.

Major	Internet of Things	To gain knowledge on bases of Internet of Things (IoT) □ To understand IoT Architecture and the Protocols related to IoT □ To acquire knowledge about WoT	Gain the basic knowledge about IoT and they will be able to use IoT related products in real life. □ Acquire knowledge about IoT architecture □ Understand IoT protocols. □ Helps to understand the concept of the Web of Thing. □ Understand the application areas of the IoT.
Allied	Statistics	To learn the statistical foundations for Data Science To learn how to implement various Explain how statistical methods used in data science	Describe the fundamentals of data sets. • Identify and apply the concepts of basic statistics • Apply data analytics for real world problems • Explore discrete random variables. • Implement continuous random variables.
Lab	Operating Systems lab	To introduce Basic Linux general purpose Commands To learn network Linux commands. To learn shell script To learn different programming language in Linux editor environment and implement different Operating system algorithm To learn about file management and different types of permission setup.	Experiment with Unix commands and shell programming. Able to build shell program for process and file system management with system calls. Able to implement and analyse the performance of different algorithm of Operating Systems like CPU scheduling algorithm, page replacement algorithms, deadlock avoidance, detection algorithm and so on.
Lab	Computer graphics and Animation lab	To make the students understand graphics concepts and develop, design and implement two and three dimensional graphical structures using OpenGL. 2. To understand multimedia compression techniques and applications of multimedia.	Understand how to generate line, circle and ellipse also how to create 2D object and various transformation techniques. 2. Understand various 3D Transformation techniques using OpenGL. 3. Understand multimedia compression techniques and applications.

Semester -IV Class- MCA- II year

Major	Internet of Things	To gain knowledge on bases of Internet of Things (IoT) □ To understand IoT Architecture and the Protocols related to IoT □ To acquire knowledge about WoT	Gain the basic knowledge about IoT and they will be able to use IoT related products in real life. □ Acquire knowledge about IoT architecture □ Understand IoT protocols. □ Helps to understand the concept of the Web of Thing. □ Understand the application areas of the IoT.
Major	Software Project Management	To impart knowledge related to the various concepts, methods of Software Project Management using management process framework, management disciplines, and risk management techniques.	acquire problem solving Skills (General) communicate and deliver as a team (General) perform entry level operations for IITITES. design Media Content for Web gain programming knowledge to develop applications create Static and Dynamic Websites

... will be able to
... prepare knowledge
... protocols
... Web of Things

Project	Major Project	Meeting all project goals successfully Providing guidance and supervision to team members Facilitating communication and collaboration Following all safety processes and protocols Optimising budget and resources	Computational Knowledge: Apply knowledge of computing fundamentals, computing specialisation, mathematics, and domain knowledge appropriate for the computing specialisation to the abstraction and conceptualisation of computing models from defined problems and requirements. Problem Analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines. Design /Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
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