

Department : BENGALI

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.A.Honours	<p>স্নাতক বাংলা সাম্মানিক পাঠ শেষে একজন শিক্ষার্থী নানাভাবে সমৃদ্ধ এবং সমর্থ হতে পারবে। সাম্মানিক স্নাতক হয়ে বিভিন্ন চাকরির ক্ষেত্রে সে যোগ্য প্রার্থী হয়ে উঠবে।</p> <p>স্নাতক বাংলা সাম্মানিক পাঠ সমাপ্ত করে কোনও শিক্ষার্থী উচ্চশিক্ষায় প্রবেশ করতে পারে। স্নাতকোত্তর পাঠ শেষ করে শিক্ষার্থী গবেষণার জন্য নিজেকে প্রস্তুত করতে পারবে।</p> <p>স্নাতক বাংলা সাম্মানিক পাঠ সমাপ্ত করে কোনও শিক্ষার্থী নিজের বিষয় ছাড়াও অন্য বিষয়, যেমন গ্রন্থাগার বিজ্ঞান, সাংবাদিকতা ইত্যাদি নিয়ে পড়াশোনা করতে পারবে।</p> <p>স্নাতক বাংলা সাম্মানিক পাঠ সমাপ্ত করে একজন শিক্ষার্থী নিবিড় সাহিত্য পাঠক হয়ে উঠতে পারে। পাঠ তালিকার বাইরের বিষয়েও শিক্ষার্থী নানা সংস্কৃতির সাহিত্য পাঠে সমর্থ হয়ে উঠবে।</p>
B.A. General	<p>স্নাতক পাঠ শেষে একজন শিক্ষার্থী নানাভাবে সমৃদ্ধ এবং সমর্থ হতে পারবে। সাম্মানিক স্নাতক হয়ে বিভিন্ন চাকরির ক্ষেত্রে সে যোগ্য প্রার্থী হয়ে উঠবে।</p> <p>স্নাতক স্তরে বাংলা ভাষা সাহিত্য একটি বিষয় হিসাবে স্নাতক স্তরে থাকলে পরবর্তী উচ্চশিক্ষায় শিক্ষার্থী প্রবেশ করতে পারবে।</p>
M.A.	<p>স্নাতকোত্তর বাংলা পাঠ শেষে যে কোনও শিক্ষার্থী যে কোনও চাকরির জন্য যোগ্য প্রার্থী হয়ে উঠবে।</p> <p>স্নাতকোত্তর বাংলা পাঠ সমাপ্ত করে শিক্ষার্থী গবেষণা কাজে যুক্ত হতে পারবে।</p> <p>স্নাতকোত্তর বাংলা পাঠ সমাপ্ত করে শিক্ষার্থী বিএড ডিগ্রির জন্য পড়াশোনা করে শিক্ষা ক্ষেত্রে চাকরির জন্য যোগ্য হয়ে উঠবে।</p> <p>স্নাতকোত্তর বাংলা পাঠ শেষে শিক্ষার্থী নেট ইত্যাদি পরীক্ষায় পাশ করলে কলেজ বিশ্ববিদ্যালয়ে চাকরির জন্য যোগ্য হয়ে উঠতে পারবে।</p> <p>স্নাতকোত্তর বাংলা পাঠ সমাপ্ত করে কোনও শিক্ষার্থী নিজের বিষয় ছাড়াও অন্য বিষয়, যেমন গ্রন্থাগার বিজ্ঞান, সাংবাদিকতা ইত্যাদি নিয়ে পড়াশোনা করতে পারবে।</p> <p>স্নাতকোত্তর বাংলা পাঠ শেষে একজন শিক্ষার্থী নিবিড় সাহিত্য পাঠক হয়ে উঠতে পারে। পাঠ তালিকার বাইরের বিষয়েও শিক্ষার্থী নানা সংস্কৃতির সাহিত্য পাঠে সমর্থ হয়ে উঠবে।</p>

Course Outcomes

B.A. BENGALI Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	বাংলা সাহিত্যের ইতিহাস ইংরেজি সাহিত্যের ইতিহাস ভাষাতত্ত্ব	<p>বাংলা সাহিত্যের ইতিহাসঃ শিক্ষার্থীরা অন্ত্যমধ্যযুগ এবং আধুনিক যুগের বাংলা সাহিত্যের বিষয়-বৈচিত্র্য, ভাষা এবং লিখন শৈলির বিবর্তন সেইসঙ্গে বাংলার সামাজিক, ধর্মীয় এবং রাজনৈতিক পরিস্থিতির বিষয় জানতে পারবে। বাংলা সাহিত্যের পরিবর্তন এবং বিকাশ কীভাবে ঘটল তা এই ইতিহাস পাঠের মধ্য দিয়ে তারা বুঝতে পারবে।</p> <p>ইংরেজি সাহিত্যের ইতিহাসঃ শিক্ষার্থীরা ইংরেজি সাহিত্যের বিশিষ্ট</p>

			<p>রচনাকারদের রচনার সঙ্গে পরিচিত হবে এবং বাংলা -ইংরেজি সাহিত্যের একটি তুলনামূলক পাঠ তাদের হবে।</p> <p>ভাষাতত্ত্বঃ প্রাচীন, মধ্য ও আধুনিক বাংলা ভাষার বৈশিষ্ট্য, ধ্বনিতত্ত্ব, শব্দভাণ্ডার এবং উপভাষার পরিচয় শিক্ষার্থীরা পাবে।</p> <p>বাংলা ভাষার ভাষাবিজ্ঞানসম্মত বিশ্লেষণ এই পাঠের মধ্য দিয়ে তারা বুঝতে পারবে।</p>
	Paper- II	<p>কাব্যের রূপভেদ</p> <p>ছন্দ</p> <p>অলংকার</p> <p>বৈষ্ণব পদাবলী</p> <p>শাক্তপদাবলী</p> <p>চণ্ডীমঙ্গল</p>	<p>কাব্যের রূপভেদঃ কাব্য-কবিতার নানা প্রকারভেদের সঙ্গে পরিচিত হয়ে বিশ্বের কাব্যধারা এবং বাংলা কবিতার নানামুখী রূপের সঙ্গে শিক্ষার্থীরা পরিচিত হবে।</p> <p>ছন্দঃ বাংলা ছন্দের সূক্ষ্ম বিষয়, তিনটি ছন্দ রীতির সঙ্গে পরিচিত হয়ে শিক্ষার্থীরা বাংলা কবিতার নান্দনিক সৌন্দর্য বুঝতে সক্ষম হবে।</p> <p>কাব্য বোঝার ক্ষেত্রে অলংকার অন্যতম একটি বিষয়। কবিতার নন্দন এবং শিল্পরূপ বুঝতে এই পাঠ যেমন সহায়ক হবে, তেমনি আনন্দও দেবে বিস্তর।</p> <p>বৈষ্ণব পদাবলী ও শাক্তপদাবলীঃ মধ্যযুগের বাংলা সাহিত্যের অন্যতম ধারার সঙ্গে পরিচিত হয়ে শিক্ষার্থীরা বাংলা গীতিকবিতার প্রথম পর্যায়টিকে এর মধ্য দিয়ে বুঝতে সক্ষম হবে। একদিকে ধর্ম অপরদিকে কাব্য, এই দুইয়ের সমন্বয় মধ্যযুগের বাংলা সাহিত্যে কীভাবে হয়েছে শিক্ষার্থীরা বৈষ্ণব পদাবলী এবং শাক্তপদাবলী পড়ে তা বুঝতে পারবে।</p> <p>চণ্ডীমঙ্গলঃ মঙ্গলকাব্যধারার একটি অন্যতম কাব্য চণ্ডীমঙ্গল পাঠের মধ্য দিয়ে মধ্যযুগের বাংলা সাহিত্যের বৈশিষ্ট্য এবং বাংলা সামাজিক ও ধর্মীয় অবস্থা সম্পর্কে জ্ঞান লাভ করবে।</p>
2 nd	Paper -III	<p>কথা সাহিত্যের রূপরীতি</p> <p>ছোটগল্প</p> <p>রজনী</p> <p>চোখের বালি</p> <p>পল্লীসমাজ</p>	<p>কথা সাহিত্যের রূপরীতিঃ কথা সাহিত্য পড়তে গেলে তার রূপ-রীতি সম্পর্কে জানা জরুরি। এই পাঠের মধ্য দিয়ে কথা সাহিত্যের তাত্ত্বিক বিষয় ছাড়াও ছোটগল্প এবং উপন্যাস পাঠের সহায়ক পাঠ তৈরি হবে। ফলে সাহিত্য বিশ্লেষণের নানা সমালোচনা পদ্ধতি তারা জানতে পারবে।</p> <p>রজনী, চোখের বালি এবং পল্লীসমাজঃ বাংলা ভাষার তিন বিশিষ্ট উপন্যাসিকের উপন্যাসের সঙ্গে পরিচয়ের সঙ্গে সঙ্গে বাংলা উপন্যাসের বিষয়-বৈচিত্র্য শিক্ষার্থীরা বুঝতে পারবে। এই তিনটি উপন্যাসের নিবিড় পাঠ উপন্যাসের রচনা পদ্ধতি, উপন্যাসিকের রচনার দৃষ্টিকোণ, ভাষা ব্যবহার, চরিত্র সৃজন ইত্যাদি তারা বিশ্লেষণ করতে পারবে।</p>
	Paper- IV	<p>প্রবন্ধ ও নিবন্ধের রূপ ও রীতি</p> <p>পঞ্চভূত</p> <p>ছিন্নপত্র</p> <p>একালের প্রবন্ধ</p>	<p>প্রবন্ধ ও নিবন্ধের রূপ ও রীতিঃ প্রবন্ধ সাহিত্যের নানা প্রকারভেদের সঙ্গে পরিচিত হয়ে বিশ্বের প্রবন্ধ সাহিত্যের এবং বাংলা প্রবন্ধের বিষয়-বৈচিত্র্যের সঙ্গে শিক্ষার্থীরা পরিচিত হবে।</p> <p>পঞ্চভূতঃ রবীন্দ্রনাথের নানা প্রবন্ধ গ্রন্থের অন্যতম একটি গ্রন্থের সঙ্গে</p>

		<p>একালের সমালোচনা বিষয়ক প্রবন্ধ</p>	<p>পরিচিত হয়ে শিক্ষার্থীরা রবীন্দ্রনাথের রচনা শৈলির পরিচয় পাবে।</p> <p>ছিন্নপত্রঃ চিঠিপত্রও যে সাহিত্যের অন্যতম মাত্রায় পৌঁছতে পারে, সেই সঙ্গে রবীন্দ্র সাহিত্যের প্রবেশক হিসাবে ছিন্নপত্র পাঠের গুরুত্ব শিক্ষার্থীরা বুঝতে পারবে।</p> <p>একালের প্রবন্ধঃ বাংলা প্রবন্ধের ধারাবাহিক পরিচয় এবং বিষয়-বৈচিত্র্য এই প্রবন্ধগুলি পাঠের মধ্য দিয়ে শিক্ষার্থীরা বুঝতে সক্ষম হবে।</p> <p>একালের সমালোচনা বিষয়ক প্রবন্ধঃ বিশ শতকের বাংলা প্রবন্ধের প্রতিনিধি স্থানীয় রচনার সঙ্গে পরিচয়ের মধ্য দিয়ে শিক্ষার্থীরা বাংলা সমালোচনা সাহিত্যের পরিচয় পেয়ে যাবে।</p>
3 rd	Paper –V	<p>নাটকের রূপ ও রীতি বঙ্গ রঙ্গমঞ্চের ইতিহাস নীলদর্পণ মুক্তধারা ছেঁড়া তার</p>	<p>নাটকের রূপ ও রীতিঃ নাটক পাঠ বা বিশ্লেষণের জন্য নাটকের প্রকারভেদ বোঝা দরকার। ভারত ও ইউরোপের নাট্য বৈশিষ্ট্য এই পাঠের মধ্য দিয়ে শিক্ষার্থীরা বুঝতে পারবে।</p> <p>বঙ্গ রঙ্গমঞ্চের ইতিহাসঃ রঙ্গমঞ্চের মধ্য দিয়ে কীভাবে নাটক বিকাশ লাভ করে বা অভিনয় বদলে যায় তার বিবরণ এই পাঠের মধ্য দিয়ে শিক্ষার্থী বুঝতে পারবে।</p> <p>নীলদর্পণ, মুক্তধারা, ছেঁড়া তারঃ বাংলা নাটকের বিবর্তনের চিত্র, তার বিষয়-বৈচিত্র্য এই পাঠের মধ্য দিয়ে শিক্ষার্থী বুঝতে পারবে। বাংলার প্রথম সামাজিক আলোড়নকারী নাটক 'নীলদর্পণ' পাঠের মধ্য দিয়ে প্রথম পর্বের বাংলা নাটকের সঙ্গে শিক্ষার্থীর যেমন পরিচয় হবে তেমনি নাটক যে প্রতিবাদের মাধ্যম তার সামাজিক গুরুত্ব যে রয়েছে তা তারা বুঝতে পারবে।</p> <p>রবীন্দ্রনাথের অন্যতম বিখ্যাত নাটক 'মুক্তধারা' পাঠের মধ্য দিয়ে শিক্ষার্থীরা রবীন্দ্রনাথের সঙ্গে পরিচিতি লাভ করবে এবং বাংলা নাটকের মধ্য রূপক এবং সাংকেতিক দ্যোতনা এসেছে সেই সম্পর্কে জ্ঞান লাভ করবে।</p> <p>'ছেঁড়া তার' নাটক বিশ শতকের বাংলা নাট্যধারার অন্যতম একটি সংযোজন। প্রতিবাদের সঙ্গে সঙ্গে সমকালের সমস্যা কীভাবে নাটকে উঠে এসেছে এই পাঠের মধ্য দিয়ে শিক্ষার্থী তার পরিচয় পাবে।</p>
	Paper –VI	<p>বীরাজনা সোনারতরী নবজাতক রবীন্দ্রানুসারী কবিসমাজ আধুনিক কবিতা</p>	<p>বীরাজনা, সোনারতরী, নবজাতকঃ বাংলা কবিতার বিষয়-বৈচিত্র্য এবং নান্দনিক বিবর্তন শিক্ষার্থী যেমন বুঝতে পারবে তেমনি কবিতা পাঠের মধ্য দিয়ে তার সাংস্কৃতিক চেতনা বৃদ্ধি পাবে। মধুসূদনের হাতে বাংলা কবিতার যে বাঁক বদল ঘটল তার পাঠ 'বীরাজনা'র মধ্য দিয়ে তারা বুঝতে পারবে। রবীন্দ্র কাব্য ধারার বিষয়-বৈচিত্র্য, তার বিবর্তন, রবীন্দ্র কাব্যের নন্দন 'সোনারতরী' এবং 'নবজাতক' পাঠের মধ্য দিয়ে শিক্ষার্থীরা জ্ঞান লাভ করবে।</p> <p>রবীন্দ্রানুসারী কবিসমাজ ও আধুনিক কবিতাঃ রবীন্দ্র সমকালীন কবির</p>

		<p>কবিতা পাঠের মধ্য দিয়ে বাংলা কবিতায় রবীন্দ্র প্রভাব সম্পর্কে শিক্ষার্থীর ধারণা স্পষ্ট হবে। আধুনিক বাংলা কবিদের কবিতা পাঠে রবীন্দ্র পরবর্তী বাংলা কবিতার উদ্ভব ও বিকাশ সম্পর্কে শিক্ষার্থীরা জ্ঞান লাভ করবে।</p> <p>বাংলা কবিতায় বিশ শতকে যে বিরাট পরিবর্তন এল আধুনিক কবিদের হাতে তা নির্বাচিত কয়েকজন কবির কবিতা পাঠের মধ্য দিয়ে শিক্ষার্থীরা বুঝতে পারবে। এই পাঠের ফলে পূর্ববর্তী কবিদের সঙ্গে আধুনিক কবিদের কবিতার পার্থক্য তারা বুঝতে পারবে। বাংলা কবিতায় যে নতুন সুর এল, নতুন ভাষা, নতুন ছন্দ, নতুন কাব্য রীতি তা এই পাঠের মধ্য দিয়ে শিক্ষার্থীরা বুঝতে পারবে।</p>
Paper –VII	<p>ধাত্রীদেবতা পদ্মানদীর মাঝি জাগরী প্রথম প্রতিশ্রুতি ছোটোগল্প</p>	<p>ধাত্রীদেবতা, পদ্মানদীর মাঝি জাগরীঃ বিশ শতকের তিনটি প্রধান উপন্যাস পাঠের মধ্য দিয়ে শিক্ষার্থীরা বাংলা উপন্যাস সম্পর্কে জ্ঞান লাভ করবে। উপন্যাসে কীভাবে রাজনীতি, অর্থনীতি আঞ্চলিক জীবন ধরা দেয় তার পরিচয় এখানে তারা পাবে। পূর্ববর্তী উপন্যাসিকদের সঙ্গে এই উপন্যাসিকদের রচনারীতির, চিন্তার যে ভিন্নতা ঘটল এই উপন্যাসগুলির নিবিড় পাঠের মধ্য দিয়ে তারা উপলব্ধি করতে পারবে।</p> <p>প্রথম প্রতিশ্রুতিঃ জ্ঞানপীঠ পুরস্কার প্রাপ্ত বাঙালি নারী রচিত এই গল্প পাঠের মধ্য দিয়ে উনিশ শতকের বাংলার নারীদের সামাজিক অবস্থা সম্পর্কে শিক্ষার্থীরা জ্ঞান লাভ করবে।</p> <p>ছোটোগল্পঃ বাংলা ছোটোগল্পের সূচনাকাল থেকে একালের গল্প পাঠের মধ্য দিয়ে শিক্ষার্থীরা বাংলা গল্পের নান্দনিক দিকটির সঙ্গে সঙ্গে তার মধ্যে প্রকাশিত বাংলার সামাজিক সমস্যাগুলি সম্পর্কে জ্ঞান লাভ করবে।</p>
Paper – VIII	<p>সংস্কৃত সাহিত্যের ইতিহাস প্রতিবেশী সাহিত্যের ইতিহাস কাব্য জিজ্ঞাসা সাহিত্য সাহিত্য- সংস্কৃতি বিষয়ক প্রবন্ধ</p>	<p>সংস্কৃত সাহিত্যের ইতিহাসঃ শিক্ষার্থীরা সংস্কৃত সাহিত্যের বিশিষ্ট রচনাকারদের রচনার সঙ্গে পরিচিত হবে এবং সংস্কৃত সাহিত্যের প্রভাব কীভাবে বাংলা সাহিত্যে পড়েছে সেই সম্পর্কে জ্ঞান লাভ করবে।</p> <p>কাব্য সম্পর্কে প্রাচীন ভারতের ভাষ্যকারদের চিন্তাধারা জানা প্রয়োজন। ভারতীয় কাব্যতত্ত্ব না জানলে আমাদের সাহিত্য আমরা সঠিকভাবে বিশ্লেষণ করতে পারব না। শিক্ষার্থীরা এই পাঠ গ্রহণ করে পরবর্তীকালে ইউরোপের সাহিত্যতত্ত্ব সহজে বুঝতে পারবে।</p> <p>প্রতিবেশী সাহিত্যের ইতিহাসঃ বাংলা সাহিত্যের পাশাপাশি প্রতিবেশী হিন্দি সাহিত্যের গতিপ্রকৃতি জানতে পারলে শিক্ষার্থীরা তুলনামূলক সাহিত্য বিচার করতে পারবে। আধুনিক হিন্দি সাহিত্য কীভাবে বিকশিত হয়ে উঠল, বাংলা সাহিত্যের প্রভাব হিন্দি সাহিত্যে পড়েছে কিনা তা এই পাঠের মাধ্যমে শিক্ষার্থীরা বুঝতে পারবে।</p> <p>রবীন্দ্রনাথ শুধু সাহিত্যকার ছিলেন না। একজন রসবেত্তা হিসাবে সাহিত্য সম্পর্কে তাঁর চিন্তাধারা আমাদের বড় সম্পদ। তাঁর সাহিত্য চিন্তা পাঠের মধ্য দিয়ে শিক্ষার্থীরা রবীন্দ্রনাথের সাহিত্য মতবাদ বুঝতে</p>

			<p>পারবে।</p> <p>সাম্মানিক স্নাতক স্তরে সাহিত্য সম্পর্কে যে জ্ঞান ছাত্র-ছাত্রীরা লাভ করে তাই আপন মতামতসহ সাহিত্য-সংস্কৃতি বিষয়ক প্রবন্ধে তারা তা প্রকাশ করতে পারবে। এই প্রবন্ধ লিখনের মধ্য দিয়ে কীভাবে সাহিত্য- সংস্কৃতি বিষয়ক প্রবন্ধ র চনা করতে হয় তারা তা শিখতে পারবে।</p>
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B.A./B.Sc General

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	বাংলা সাহিত্যের ইতিহাস (আধুনিক যুগ)	আধুনিক যুগের বাংলা সাহিত্যের ইতিহাস পড়ে শিক্ষার্থীরা বাংলা সাহিত্যের নানা দিকগুলির সঙ্গে যেমন পরিচিত হতে পারবে, তেমনি আধুনিক বাংলাদেশের সমাজ, শিক্ষা, ধর্ম ইত্যাদি প্রসঙ্গে অভিত হতে পারবে।
	Paper- II	বৈষ্ণব পদাবলী চতুর্দশপদী কবিতাবলী	বৈষ্ণব পদাবলীঃ মধ্যযুগের বাংলা সাহিত্যের অন্যতম ধারার সঙ্গে পরিচিত হয়ে শিক্ষার্থীরা বাংলা গীতিকবিতার প্রথম পর্যায়টিকে এর মধ্য দিয়ে বুঝতে সক্ষম হবে। একদিকে ধর্ম অপরদিকে কাব্য, এই দুইয়ের সমন্বয় মধ্যযুগের বাংলা সাহিত্যে কীভাবে হয়েছে শিক্ষার্থীরা বৈষ্ণব পদাবলী পড়ে তা বুঝতে পারবে। মধুসূদনের কাব্য পাঠের মধ্য দিয়ে আধুনিক বাংলা কবিতার সংগে যেমন নিবিড় পরিচয় হবে, তেমনি মধুসূদনের ব্যক্তিগত অনুভব শিক্ষার্থীরা এই কাবিতাগুলির মাধ্যমে বুঝতে পারবে।
	Paper -III	বাংলা প্রবন্ধ দেবী চৌধুরানী গল্পগুচ্ছ	বাংলা প্রবন্ধ সাহিত্য অত্যন্ত গুরুত্বপূর্ণ একটি সংরূপ। দেবেন্দ্রনাথ ঠাকুর, বঙ্কিমচন্দ্র, রবীন্দ্রনাথ, এস. ওয়াজেদ আলী এবং বলেন্দ্রনাথ ঠাকুরের প্রবন্ধ পাঠের মধ্য দিয়ে বাংলা প্রবন্ধ সাহিত্যের সঙ্গে শিক্ষার্থীরা পরিচিত হবে এবং সময়ের সঙ্গে এই সংরূপের বিবর্তনটিও বুঝতে পারবে। ব্যক্তিগত এবং বিষয়গত প্রবন্ধ পাঠের ফলে তাঁদের জ্ঞানের পরিধি বৃদ্ধি পাবে। 'দেবী চৌধুরানী' বঙ্কিমচন্দ্রের অন্যতম উপন্যাস। উত্তরবঙ্গের আবহে বঙ্কিমচন্দ্র যে উপন্যাস লিখেছিলেন তাতে একদিকে ইতিহাসের স্পর্শ অপরদিকে কাহিনির আকর্ষণ আছে। শিক্ষার্থীরা এই পাঠের মধ্য দিয়ে বঙ্কিমের উপন্যাস তথা বাংলা উপন্যাসের প্রথম পর্বের সঙ্গে পরিচিত হবে। রবীন্দ্রনাথের গল্পগুচ্ছের কয়েকটি গল্প পাঠের মধ্য দিয়ে রবীন্দ্রনাথের গল্পের সঙ্গে নান্দনিক দিকের সঙ্গে শিক্ষার্থীরা পরিচিত হবে। বাংলা সাহিত্যে ছোটগল্পের শক্তি এবং সামর্থ

			কোথায় এই পাঠের মধ্য দিয়ে শিক্ষার্থীরা তা উপলব্ধি করবে।
2 nd	Paper- IV	ছন্দ অলংকার সাহিত্যের রূপরীতি	<p>ছন্দঃ বাংলা ছন্দের সূক্ষ্ম বিষয়, তিনটি ছন্দ রীতির সঙ্গে পরিচিত হয়ে শিক্ষার্থীরা বাংলা কবিতার নান্দনিক সৌন্দর্য বুঝতে সক্ষম হবে।</p> <p>কাব্য বোঝার ক্ষেত্রে অলংকার অন্যতম একটি বিষয়। কবিতার নন্দন এবং শিল্পরূপ বুঝতে এই পাঠ যেমন সহায়ক হবে, তেমনি আনন্দও দেবে বিস্তর।</p> <p>সাহিত্যের নানা রূপরীতি পাঠের মাধ্যমে শিক্ষার্থীরা কবিতা, গল্প, উপন্যাস, প্রবন্ধের নানা ধরন এবং এই সংক্রপগুলির বিশ্বের বিভিন্ন প্রান্তে কী রকম সাহিত্য সৃষ্টি করেছে তার পরিচয় পেয়ে যাবে।</p>
	Paper –V	মানসী রূপসী বাংলা বিসর্জন	<p>রবীন্দ্রনাথের প্রথম পর্যায়ের কাব্য পাঠের মধ্য দিয়ে রবীন্দ্র কবিতার সৌন্দর্য পাঠার্থীরা উপলব্ধি করতে পারবে। এই কাব্য পাঠে উনিশ শতকের শেষদিকে বাংলা কাব্যের বৈশিষ্ট্য সম্পর্কেও শিক্ষার্থীরা জ্ঞান লাভ করবে।</p> <p>বিশ শতকের অন্যতম খ্যাতকীর্তি কবি জীবনানন্দ দাশের অন্যতম কাব্য পাঠের মধ্য দিয়ে আধুনিক বাংলা কবিতার বৈশিষ্ট্য, কবি জীবনানন্দের কাব্যভাবনার সঙ্গে শিক্ষার্থীর পরিচয় ঘটবে।</p> <p>রবীন্দ্রনাথের প্রথম পর্যায়ের নাট্য পাঠের মধ্য দিয়ে রবীন্দ্র নাটকের সৌন্দর্য এবং বিষয়বস্তু পাঠার্থীরা উপলব্ধি করতে পারবে। এই নাট্য পাঠে উনিশ শতকের শেষদিকে বাংলা নাট্যের বৈশিষ্ট্য এবং রবীন্দ্র নাট্যচিন্তা সম্পর্কেও শিক্ষার্থীরা জ্ঞান লাভ করবে।</p>
	Paper –VI	দেনাপাওনা রবীন্দ্রোত্তর ছোটগল্প	<p>বাংলা তো বটেই, ভারতীয় উপন্যাসের ক্ষেত্রে শরৎচন্দ্র এক অন্যতম নাম। 'দেনাপাওনা' শরৎচন্দ্রের অন্যতম এক উপন্যাস যেখানে বাংলার পারিবারিক এবং সামাজিক চিত্র ধরা পড়েছে। একশো বছর আগের বাংলার সমাজ এবং পরিবারগুলির অবস্থা জানতে এই উপন্যাস পাঠ অত্যন্ত জরুরি।</p> <p>রবীন্দ্রনাথের গল্পের সঙ্গে শিক্ষার্থীরা প্রথমবর্ষেই পরিচিত হয়েছে। রবীন্দ্র পরবর্তী বাংলা ছোটগল্পের সঙ্গে দ্বিতীয়বর্ষে তাদের পরিচয় ঘটবে। পাঁচজন বিশিষ্ট বাংলা ছোটগল্পকার, প্রেমেন্দ্র মিত্র, তারাশংকর বন্দ্যোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়, সুবোধ ঘোষ এবং নরেন্দ্রনাথ মিত্রের পাঁচটি প্রতিনিধি স্থানীয় গল্প পাঠের মধ্য দিয়ে বাংলা ছোট গল্পের বিষয়বস্তু, রচনারীতি, ভাষা এবং বাংলা ছোটগল্পধারার বিবর্তনটি শিক্ষার্থীরা বুঝতে পারবে।</p>
3 rd	Paper - VII	পরিভাষা	ইউরোপীয় সাহিত্যের পরিভাষার সঙ্গে শিক্ষার্থীদের পরিচয়

		<p>প্রুফ সংশোধন সাহিত্য বিষয়ক প্রবন্ধ ভাষাতত্ত্ব আন্তর্জাতিক ধ্বনিমূলক বর্ণমালার চিহ্ন সাক্ষাৎকার, রিপোর্টাজ লিখন বিজ্ঞাপন রচনা ইংরেজি থেকে বাংলায় অনুবাদ</p>	<p>হওয়া অত্যন্ত প্রয়োজন। এই পরিভাষাগুলির বাংলা প্রতিশব্দ কী তার পরিচয় এই পাঠের মধ্য দিয়ে শিক্ষার্থীরা লাভ করবে।</p> <p>নির্ভুল মুদ্রণের জন্য প্রুফ সংশোধন শিক্ষা বাংলা মুদ্রণ ব্যবস্থার উন্নতি ঘটতে পারে। শিক্ষার্থীরা এই শিক্ষা লাভ করে পেশা হিসাবেও তা গ্রহণ করতে পারে।</p> <p>বাংলা ভাষা ও সাহিত্য পাঠের শেষ পর্বে শিক্ষার্থীরা সাহিত্য বিষয়ক প্রবন্ধ রচনা শিক্ষার মাধ্যমে সাহিত্য সম্পর্কে আপন মত এবং অধীত বিদ্যা প্রয়োগ এই বিষয়টির মাধ্যমে করতে পারবে।</p> <p>বাংলা ভাষার ধ্বনিতত্ত্ব এবং রূপতত্ত্বের কিছু বিষয় ভাষাতত্ত্বের এই পাঠের মাধ্যমে শিক্ষার্থীরা জ্ঞান লাভ করবে। বাংলা ভাষার ধ্বনিগত এবং আঞ্চলিক রূপভেদের বিষয়গুলি সম্পর্কে তারা ভাষাতত্ত্বের এই পাঠ থেকে জানতে পারবে।</p> <p>বাংলা ভাষায় কোনও লেখাকে ভিন্নভাষীর কাছে সঠিক উচ্চারণে কীভাবে উপস্থাপিত করা হয় তার ভাষাবিজ্ঞানসম্মত চর্চা এই পাঠের মাধ্যমে শিক্ষার্থী জ্ঞান লাভ করবে। বিষয়টি পেশাগত ক্ষেত্রেও খুব প্রয়োজনীয়। তাই এই পাঠ তাদের কাছে পেশা গ্রহণের সুযোগ তৈরি করতে পারে।</p> <p>গণমাধ্যমে চাকরির জন্য সাক্ষাৎকার গ্রহণ এবং প্রতিবেদন প্রস্তুতির শিক্ষা অত্যন্ত জরুরি। উপযুক্তভাবে এই শিক্ষা লাভ করলে গণমাধ্যমে চাকরির সুযোগ ঘটবে।</p> <p>বিজ্ঞাপন রচনা তৈরির শিক্ষা বিভিন্ন বিজ্ঞাপন সংস্থায় কর্মসংস্থানের সুযোগ করে দিতে পারে। অত্যন্ত আকর্ষণীয় এই পেশায় শিক্ষার্থী তার সৃজনশীলতার বিকাশ ঘটতে পারে।</p> <p>অনুবাদ শিক্ষা আধুনিক যুগের গুরুত্বপূর্ণ একটি দিক। দক্ষ অনুবাদক নানা ক্ষেত্রে পেশা হিসাবে এই শিক্ষার ফলে চাকরি পেতে পারে এবং আপন সৃজনশীলতার বিকাশ ঘটতে পারে।</p>
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M.A. from 2015-16

Year/Semester	Paper/Course	Course Title	Outcomes
1st Semester	Course: 101/1 & 101/2	বাংলা সাহিত্যের ইতিহাসঃ ১০ম থেকে ২০শ শতক	বাংলা সাহিত্যের আদি যুগ থেকে আধুনিক কাল পর্যন্ত সামগ্রিক পরিচয় শিক্ষার্থীরা এখানে লাভ করবে। কীভাবে বাংলা সাহিত্যের বিবর্তন হয়েছে, তার ভাষারূপ এবং সাহিত্যের ফর্ম কীভাবে বদলে গেছে সেই সম্পর্কে একটি বিস্তারিত বিবরণ তারা লাভ করবে। সেই সঙ্গে বঙ্গদেশের সমাজ, ধর্ম, রাষ্ট্র ব্যবস্থার পরিবর্তন তারা বুঝতে পারবে।

			<p>আধুনিক বাংলা সাহিত্যের বহু ব্যপ্ত দিকটির পরিচয় শিক্ষার্থীরা এর থেকে পেয়ে যাবে।</p>
<p>Course: 102/1 & 102/2</p>	<p>চর্যাগীতি, শ্রীকৃষ্ণকীর্তন, চৈতন্যচরিতামৃত, বৈষ্ণব পদাবলী।</p> <p>কোচবিহার রাজসভার সাহিত্য, মাণিক দত্তের চণ্ডীমঙ্গল, জগজ্জীবন ঘোষালের মনসামঙ্গল, গোসানীমঙ্গল</p>	<p>প্রাচীন এবং মধ্য যুগের বাংলা সাহিত্যের নিবিড় পাঠ এই কোর্সের মাধ্যমে শিক্ষার্থীরা লাভ করবে। বাংলা দেশের ধর্ম নির্ভর সাহিত্যের মাধ্যমে প্রচলিত ধর্ম চর্যার দিকগুলি সম্পর্কে শিক্ষার্থীরা এখানে অবহিত হবে। প্রাচীন বাংলার সাহিত্য নিদর্শন হিসাবে চর্যাগীতির পাঠ প্রয়োজন। এর ভাষা, সাধন প্রণালী, সেই সময়ের বাঙালি জীবন সম্পর্কে শিক্ষার্থীরা জ্ঞান লাভ করবে। আদি মধ্যযুগের বাংলা সাহিত্যের পরিচয় ঘটবে শ্রীকৃষ্ণকীর্তন পাঠের মধ্য দিয়ে। এই সময়ের বাংলা ভাষার সঙ্গে যেমন শিক্ষার্থীদের পরিচয় ঘটবে তেমনি নতুন যুগের কাব্যের বিষয় এবং লিখন শৈলীর পরিচয় তারা পাবে। বাংলার জীবনই সাহিত্যের অন্যতম 'চৈতন্যচরিতামৃত' পাঠের মধ্য দিয়ে একদিকে চৈতন্য জীবন কথা অন্যদিকে বৈষ্ণব তত্ত্বের ব্যাখ্যা বুঝতে পারবে। বাংলার ধর্ম সঙ্গীত কীভাবে কবিতা হয়ে ওঠে, কীভাবে ব্যক্তিগত উচ্চারণ ধর্মগীতির মধ্যেও পাওয়া যায় তাড়িকদিকসহ এই বিষয়গুলি ছাত্র-ছাত্রীদের মধ্যযুগের কাব্যের সংগে পরিচয় ঘটিয়ে দেবে।</p> <p>রাজসভার পৃষ্ঠপোষকতায় বাংলা সাহিত্যের যে বিকাশ ঘটেছিল তার একটি বিস্তৃত বিবরণ কোচবিহার রাজসভার সাহিত্যচর্চা পাঠের মধ্য দিয়ে শিক্ষার্থীদের স্পষ্ট ধারণা হবে। এর সঙ্গেই 'গোসানীমঙ্গল' সাহিত্য পাঠের মধ্য দিয়ে আঞ্চলিক সাহিত্যের নিবিড় পাঠ তাদের সাহিত্য পাঠকে সমৃদ্ধ করবে। উত্তরবঙ্গের মনসামঙ্গল এবং চণ্ডীমঙ্গল সাহিত্য যে কতখানি সমৃদ্ধ ছিল তা এই কাব্য পড়ে শিক্ষার্থীরা বুঝতে পারবে।</p>	
<p>Course: 103/1 & 103/2</p>	<p>ঈশ্বর গুপ্তের কবিতাবলী, মেঘনাদবধ কাব্য, সারদামঙ্গল, মোহিতলালের শ্রেষ্ঠ কবিতা।</p> <p>জীবনানন্দ দাশ, বুদ্ধদেব বসু, বিষ্ণু দে এবং সুভাষ মুখোপাধ্যায়ের শ্রেষ্ঠ কবিতা।</p>	<p>বাংলা কবিতার আধুনিক যুগ এবং তার পূর্ববর্তী কবিদের মধ্যবর্তী ঈশ্বর গুপ্ত। তাঁর কবিতায় কীভাবে সমকাল ধরা পড়ল আর আধুনিকতার বার্তা এল এই পাঠের মাধ্যমে তা শিক্ষার্থীরা বুঝতে পারবে। মধুসূদনের হাতে বাংলা কবিতার গতিপথ বদলে গেল তাঁর সৃষ্ট নতুন ফর্ম এবং চিন্তা-চেতনার মধ্য দিয়ে। শিক্ষার্থীরা মধুসূদনের কাব্য পাঠের মধ্য দিয়ে নতুন যুগের কবিতা বুঝতে পারবে। বাংলা গীতিকবিতার প্রথম পর্বের কবি বিহারীলালের কাব্য পাঠের মাধ্যমে বাংলা কাব্যে ব্যক্তিগত উচ্চারণ শিক্ষার্থীরা অনুভব করতে পারবে। এই কাব্যপ্রবাহ বিকশিত হয়ে মোহিতলালে কীভাবে এল, বিদেশী দার্শনিকের প্রভাব বাংলা কবিতায় কী ছাপ ফেলল তা শিক্ষার্থীরা এই কোর্সের কাব্যগুলি পড়ে বুঝতে পারবে।</p> <p>বিশ শতকের বাংলা কবিতায় নতুন সুর নিয়ে এলেন জীবনানন্দ দাশ, বুদ্ধদেব, বসু, বিষ্ণু দে, সুভাষ মুখোপাধ্যায়ের মতো কবিরা। এই কবিদের প্রত্যেকের ব্যক্তিগত বৈশিষ্ট্য আছে তাঁদের কবিতায়। বাংলা কবিতার আধুনিকতার জয়যাত্রা এঁদের হাতেই। এঁদের শ্রেষ্ঠ কবিতাগুলি পাঠের মাধ্যমে শিক্ষার্থীরা আধুনিক বাংলা সাহিত্যের একটা পরিচয় পেয়ে যাবে।</p>	

2 nd Semester	Course: 201/1 & 201/2	ভাষা বিজ্ঞান ও বাংলা ভাষা	আধুনিক ভাষাবিজ্ঞানের পরিচয় পেতে এই কোর্সটি অত্যন্ত জরুরি। সারা বিশ্বের ভাষাবিজ্ঞানের বিভিন্ন মতগুলি যেমন শিক্ষার্থীরা বুঝতে পারবে তেমনি বাংলা ভাষাকে আধুনিক ভাষাবিজ্ঞানের আলোকে বুঝতে পারবে। বাংলা ধ্বনিতত্ত্ব, রূপতত্ত্ব, উপভাষা, প্রতিবেশী ভাষার সঙ্গে বাংলা ভাষার সম্পর্ক এই কোর্সের মাধ্যমে শিক্ষার্থীরা বুঝতে পারবে।
	Course: 202/1 & 202/2	রামতনু লাহিড়ী ও তৎকালীন বঙ্গসমাজ বিবিধ প্রবন্ধঃ বঙ্কিমচন্দ্র কালান্তরঃ রবীন্দ্রনাথ ঠাকুর বর্তমান ভারতঃ স্বামী বিবেকানন্দ নির্বাচিত প্রবন্ধ প্রমথ চৌধুরী অন্নদাশংকর রায় আবু সয়ীদ আইয়ুব গোপাল হালদার	উনিশ শতকে বাংলা প্রবন্ধ সাহিত্যের যে সূচনা ঘটল তা কীভাবে বিকশিত হয়ে বহুধা বিস্তৃত হল তার পরিচয় এই কোর্সের মাধ্যমে শিক্ষার্থী পেয়ে যাবে। শিবনাথ শাস্ত্রীর বিখ্যাত বই 'রামতনু লাহিড়ী ও তৎকালীন বঙ্গ সমাজ' গ্রন্থটি একাধারে ইতিহাস, সমাজ, ধর্ম, শিক্ষা ইত্যাদির দলিল। সুললিত ভাষায় এই গ্রন্থ পাঠের মধ্য দিয়ে শিক্ষার্থীরা বঙ্গদেশের এক বিশেষ কালের পরিচয় লাভ করবে। বঙ্কিমচন্দ্র বাংলা প্রবন্ধ সংক্রমে এক অন্যতম নাম। তাঁর 'বিবিধ প্রবন্ধ' পাঠে ছাত্রছাত্রীরা সেকালের প্রবন্ধের নানা বিষয়ের সঙ্গে পরিচিত হবে। বাংলা ভাষা, বাংলা সমালোচনা সাহিত্য, বাংলা দেশের সমাজ ইত্যাদি পাঠের মধ্য দিয়ে সমকালের নানা বিষয়ে জ্ঞান লাভ করবে। 'কালান্তর' রবীন্দ্রনাথের সমাজ রাষ্ট্র সম্পর্কিত চিন্তা ভাবনার ফসল। এই পাঠের ফলে প্রাবন্ধিক রবীন্দ্রনাথের সঙ্গে শিক্ষার্থীদের পরিচয় ঘটবে। তাঁর উদার, মুক্ত মনের যুক্তিগুলি আমাদের সমাজের অসঙ্গতিগুলিকে চিনিয়ে দেয়। এই যুক্তিগুলি ছাত্র-ছাত্রীদের চিন্তার জগৎ বিস্তৃত করবে। বিবেকানন্দের কাছে ভারতবর্ষের যে রূপ ধরা পড়েছিল তার পরিচয় 'বর্তমান ভারত' প্রবন্ধ পাঠের মধ্য দিয়ে শিক্ষার্থীরা পাবে। বাংলা প্রবন্ধ সাহিত্যে প্রমথ চৌধুরী, অন্নদাশংকর রায়, আবু সয়ীদ আইয়ুব এবং গোপাল হালদার তাঁদের চিন্তাধারা রচনারীতির জন্য বিখ্যাত হয়ে আছেন। এই চারজন প্রাবন্ধিকের ভিন্ন বিষয়ে লেখা প্রবন্ধগুলি পাঠের মধ্য দিয়ে বাংলা প্রবন্ধ সাহিত্য এবং এঁদের দর্শনের সঙ্গে শিক্ষার্থীরা পরিচিত হবে। বাংলা সাহিত্যের শিক্ষার্থীদের এই প্রবন্ধগুলি অবশ্য পাঠ্য।
	Course: 203/1 & 203/2	সধবার একাদশীঃ দীনবন্ধু মিত্র বিভ্রমঙ্গলঃ গিরিশচন্দ্র ঘোষ নূরজাহানঃ দ্বিজেন্দ্রলাল রায় দেবীগর্জনঃ বিজন ভট্টাচার্য তপস্বী ও তরঙ্গিনীঃ বুদ্ধদেব বসু	বাংলা নাটকের প্রথম পর্ব থেকে বিশ শতকের দ্বিতীয়ার্ধ পর্যন্ত সময়কালের ৮টি বাংলা প্রহসন এবং নাটকের নিবিড় পাঠের সুযোগ পাবে শিক্ষার্থীরা। দীনবন্ধু মিত্রের প্রহসন 'সধবার একাদশী' পাঠের মধ্য দিয়ে সেকালের বাংলার নগর জীবনের সমাজ সম্পর্কে অবহিত হতে পারবে শিক্ষার্থীরা। নব্য শিক্ষিত যুবসমাজের ভ্রষ্টাচার যেমন এখানে উঠে এসেছে

		<p>চাঁদ বণিকের পালাঃ শম্ভু মিত্র এবং ইন্দ্রজিৎঃ বাদল সরকার তক্ষকঃ মনোজ মিত্র</p>	<p>তেমনি ঘরের নারীদের জীবনের অসহায়তার কথাও এখানে ধরা পড়েছে। 'বিভ্রমঙ্গল' গিরিশ ঘোষের অন্যতম নাটক। বাংলা নাটকে গিরিশচন্দ্রের গুরুত্ব সেকালের বাঙালির নাট্যরুচি এই পাঠের মধ্য দিয়ে শিক্ষার্থী বুঝতে পারবে। দ্বিজেন্দ্রলালের বিখ্যাত ঐতিহাসিক নাটকগুলির অন্যতম 'নূরজাহান' পাঠে বাংলা ঐতিহাসিক নাটকের সঙ্গে পরিচিতি আর দ্বিজেন্দ্র নাট্য প্রতিভার পরিচয় লাভ করবে শিক্ষার্থীরা। পরবর্তী কালের 'দেবীগর্জন' নাটকে বিজন ভট্টাচার্যের নাট্যশৈলী এবং বাংলা নাটকের বিষয়বস্তুর বিবর্তনের পরিচয় ছাত্র-ছাত্রীরা পাবে।</p> <p>বিশ শতকের বাংলা নাটকের যে বিরাট পরিবর্তন এল চারজন বিখ্যাত নাট্যকারের নাটক পাঠের মধ্য দিয়ে তার পরিচয় এখানে পাওয়া যাবে। বুদ্ধদেব বসুর পুরাণ নির্ভর নাটক 'তপস্বিনী ও তরঙ্গিনী'র মধ্য বাংলা নাটকে কীভাবে পুরাণের নবভাষ্য রচিত হল সেই সঙ্গে নাটকের মধ্যে কাব্য সুখমা এবং অনন্য নাট্যশৈলীর সঙ্গে শিক্ষার্থীরা পরিচিত হতে পারবে। শম্ভু মিত্রের অনন্য সৃষ্টি 'চাঁদ বণিকের পালা'য় বাংলা নাটকের দিক বদল ঘটেছে। শম্ভু মিত্রের নাট্য চিন্তার সঙ্গে পরিচয়ের ফলে বাংলা নাটকের বহু বিস্তৃত ক্ষেত্রকে তারা বুঝতে পারবে। বাদল সরকার এবং মনোজ মিত্রের নাটক পাঠের মধ্য দিয়ে বাংলা নাটকের শৈলীর বিবর্তন বুঝতে পারবে। থার্ড থিয়েটার, অ্যবসার্ড নাটক ইত্যাদি সম্পর্কে শিক্ষার্থীরা জ্ঞান লাভ করবে।</p>
3 rd Semester	<p>Course: 301/1 & 301/2</p>	<p>প্রাচীন ভারতীয় কাব্যতত্ত্ব অ্যারিস্টটলের কাব্যতত্ত্ব সাহিত্যের পথেঃ রবীন্দ্রনাথ রোমান্টিক কাব্যতত্ত্ব</p> <p>সাহিত্য সমালোচনার রীতি পদ্ধতি সাহিত্য সমালোচনার কয়েকটি মতবাদ বাংলা সমালোচনা সাহিত্য</p>	<p>কাব্য সম্পর্কে প্রাচীন ভারতের ভাষ্যকারদের চিন্তাধারা জানা প্রয়োজন। ভারতীয় কাব্যতত্ত্ব না জানলে আমাদের সাহিত্য আমরা সঠিকভাবে বিশ্লেষণ করতে পারব না। রস, ধ্বনি ইত্যাদি পরিভাষা কোন কোন ক্ষেত্রে সাহিত্যে ব্যবহার করা যায় তা এই পাঠে বোঝা যাবে। ইউরোপীয় সাহিত্যতত্ত্বের প্রথম পর্বের প্রবক্তা অ্যারিস্টটলের কাব্যতত্ত্ব পড়ে একদিকে ইউরোপীয় সাহিত্যতত্ত্বের সঙ্গে পরিচয় অন্যদিকে ভারতীয় কাব্যতত্ত্বের সঙ্গে এর দৃষ্টিভঙ্গিনির্ভর প্রভেদ শিক্ষার্থীরা বুঝতে পারবে। রবীন্দ্রনাথ শুধু সাহিত্যকার ছিলেন না। একজন রসবেত্তা হিসাবে সাহিত্য সম্পর্কে তাঁর চিন্তাধারা আমাদের বড় সম্পদ। তাঁর সাহিত্য চিন্তার অন্যতম গ্রন্থ 'সাহিত্যের পথে' পাঠের মধ্য দিয়ে শিক্ষার্থীরা রবীন্দ্রনাথের সাহিত্য মতবাদ বুঝতে পারবে।</p>
	<p>Course: 302/1 & 302/2</p>	<p>রবীন্দ্র সাহিত্য চিত্রা খেয়া বলাকা পুনশ্চ</p> <p>ঘরে বাইরে রক্তকরবী</p>	<p>এই কোর্সটির মধ্য দিয়ে রবীন্দ্র সাহিত্যের নানা দিকের সঙ্গে ছাত্র-ছাত্রীরা পরিচিত হতে পারবে। কবি রবীন্দ্রনাথের জীবনের বিভিন্ন সময়ের চারটি কাব্য পড়ে রবীন্দ্রকাব্যধারা সম্পর্কে সম্যক ধারণা লাভ করবে। প্রথম দিকের কাব্য 'চিত্রা' পাঠের মাধ্যমে রবীন্দ্রনাথের সৌন্দর্য চেতনার পরিচয় পাবে।</p> <p>'খেয়া' 'গীতাঞ্জলি-গীতিমালা' পাঠের প্রবেশ পথ। এই কবিতাগুলির সঙ্গে শিক্ষার্থীদের পরিচয় রবীন্দ্রকাব্যচেতনাকে বুঝতে সাহায্য করবে।</p>

<p>জীবনস্মৃতি মানুষের ধর্ম</p>		<p>'বলাকা' রবীন্দ্রনাথের কাব্যধারার অন্যতম কাব্য। প্রথম বিশ্বযুদ্ধের সময়কার রবীন্দ্রনাথের চিন্তার প্রকাশ শিক্ষার্থীরা এই পাঠে বুঝতে পারবে। রবীন্দ্রকাব্যের বাঁক বদলের পরিচয় 'বলাকা' পাঠের মাধ্যমে শিক্ষার্থীরা বুঝতে পারবে।</p> <p>রবীন্দ্র কবিতায় গদ্যছন্দের ব্যবহার কীভাবে ঘটেছে, কীভাবে আটপৌর জীবনের চিত্র রচিত হয়েছে তার পরিচয় 'পুনশ্চ' কাব্য পাঠের মাধ্যমে শিক্ষার্থীরা জানতে পারবে।</p> <p>উপন্যাস, নাটক, আত্মজীবনী এবং প্রবন্ধ চারটি সংরূপের চারটি প্রতিনিধি স্থানীয় রচনা পড়ে শিক্ষার্থীরা রবীন্দ্রনাথের সৃষ্টির বৈচিত্র্য বুঝতে পারবে। রবীন্দ্র উপন্যাসে কীভাবে সমকাল এবং রাজনীতি এসেছে, কীভাবে উপন্যাসের রচনা রীতির বদল হচ্ছে তা বোঝা যাবে এই পাঠে। 'রক্তকরবী' রবীন্দ্র নাট্যের এক অন্যতম নাম এই পাঠ একদিকে ছাত্র-ছাত্রীদের নতুন নাট্য সৃজন, রবীন্দ্রনাথের চিন্তার গভীরতা আর রূপকভাবনা শেখাবে। 'রক্তকরবী' পাঠ শিক্ষার্থীদের সাহিত্য পাঠের নতুন দিক খুলে দেবে। রবীন্দ্রনাথের কবি হয়ে ওঠার কাহিনি আছে 'জীবনস্মৃতি'তে। একটি আত্মজীবনী যে কতখানি গভীর ভাবের দ্যোতক হয়ে উঠতে পারে ছাত্র-ছাত্রীরা এই পাঠে সেটা উপলব্ধি করতে পারবে। রবীন্দ্রচিন্তার অন্যতম প্রকাশ তাঁর অসামান্য রচনা 'মানুষের ধর্ম'। সমকালকে অবলম্বন করে এক বিশ্বজনীন চিন্তা কীভাবে কালোত্তীর্ণ হয়ে ওঠে তা এখানে প্রকাশ পেয়েছে। এই পাঠ রবীন্দ্রনাথের মননের জগৎকে বুঝতে সাহায্য করবে।</p>
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	<p>Course: 303/1 & 303/2</p> <p>রাজসিংহঃ বঙ্কিমচন্দ্র শ্রীকান্তঃ শরৎচন্দ্র তিতাস একটি নদীর নামঃ অদ্বৈত মল্লবর্মণ গড় শ্রীখণ্ডঃ অমিয়ভূষণ</p> <p>গল্পগুচ্ছঃ রবীন্দ্রনাথ নির্বাচিত গল্পঃ প্রেমেন্দ্র মিত্র, আশাপূর্ণা দেবী, নারায়ণ গঙ্গোপাধ্যায়</p>	<p>চারটি ভিন্ন সময়ের বাংলা উপন্যাসের পাঠের মধ্য দিয়ে বাংলা উপন্যাসের বৈচিত্র্য বোঝা যাবে এই কোর্সের মাধ্যমে। বঙ্কিমচন্দ্রের 'রাজসিংহ' পাঠের মধ্য দিয়ে উনিশ শতকের বাংলা উপন্যাসের অবস্থান এবং প্রকৃতি বোঝা যাবে। শরৎচন্দ্রের বিখ্যাত 'শ্রীকান্ত' উপন্যাস একদিকে শরৎচন্দ্রের মতো জনপ্রিয় উপন্যাসিকের পাঠে শিক্ষার্থীরা সমৃদ্ধ হবে অপরদিকে বাংলার সমাজমানসের পরিচয় এখানে পাওয়া যাবে। বাংলার প্রান্তজনের কথা বাংলা সাহিত্যে কীভাবে উঠে এসেছে, 'তিতাস একটি নদীর নাম' উপন্যাসে তার পরিচয় ছাত্ররা পাবে। আঞ্চলিক উপন্যাসের বিষয় বৈচিত্র্য নির্দিষ্ট জনগোষ্ঠীর জীবনের নানা কথায় সমৃদ্ধ এই উপন্যাস পাঠে ছাত্র-ছাত্রীরা বিশেষভাবে জ্ঞান লাভ করবে। বাংলা উপন্যাসে অমিয়ভূষণ মজুমদার নিঃসন্দেহে এক ব্যতিক্রমী নাম। অনন্য রচনা শৈলী এবং গভীর চিন্তা সমৃদ্ধ বিষয়বস্তু তাঁর উপন্যাসের বৈশিষ্ট্য। 'গড়শ্রীখণ্ড' পাঠে শিক্ষার্থীরা স্বাধীনতা পরবর্তী বাংলা উপন্যাসের সম্পর্কে বিশেষভাবে অবহিত হতে পারবে।</p> <p>রবীন্দ্রনাথ থেকে নারায়ণ গঙ্গোপাধ্যায় চারজন গল্পকারের গল্পপাঠ শিক্ষার্থীদের বাংলা ছোটগল্পের বিবর্তনটি বুঝতে সাহায্য করবে। রবীন্দ্রনাথের গল্পের বিরাট ভাণ্ডার, প্রেমেন্দ্র মিত্রের গল্পের মধ্যে বাংলা গল্পের বাঁক বদলের দিকগুলি -- এই পাঠের মধ্য দিয়ে ছাত্ররা বুঝতে পারবে। আশাপূর্ণা দেবীর গল্পে নারীর কণ্ঠস্বর তারা যেমন উপলব্ধি করতে পারবে তেমনি নারায়ণ গঙ্গোপাধ্যায়ের গল্পের মধ্যে সময়ের প্রতিবেদন তারা দেখতে পাবে।</p>
4 th Semester	<p>Course: 401/1 & 401/2</p> <p>বিশেষ পত্র উপন্যাস ও ছোটগল্প উপন্যাস ও ছোটগল্পের তাত্ত্বিক ও ঐতিহাসিক আলোচনা</p>	<p>উপন্যাস ও ছোটগল্পের তাত্ত্বিক আলোচনায় কথাসাহিত্যের তত্ত্বগতদিকগুলি সম্পর্কে শিক্ষার্থীরা জানতে পারবে। কথাসাহিত্যের ইতিহাস, বাংলা উপন্যাস ও ছোটগল্পের তাত্ত্বিক ও ঐতিহাসিক পর্যালোচনা তাদের বিদ্যাচর্চাকে সমৃদ্ধ করবে।</p>
	<p>Course: 402/1 & 402/2</p> <p>চতুরঙ্গঃ রবীন্দ্রনাথ পুতুলনাচের ইতিকথাঃ মানিক বন্দ্যোপাধ্যায় টোঁড়াইচরিত মানসঃ সতীনাথ ভাদুড়ী অন্তঃশীলাঃ ধূর্জটিপ্রসাদ মুখোপাধ্যায় হাঁসুলী বাঁকের উপকথাঃ তারাশংকর বন্দ্যোপাধ্যায় মহাকালের রথের ঘোড়াঃ সমরেশ বসু পথের পাঁচালীঃ বিভূতিভূষণ বন্দ্যোপাধ্যায় খোয়াবনামাঃ আখতারুজ্জামান ইলিয়াস</p>	<p>বাংলা উপন্যাসের মধ্যকার কয়েকটি বিখ্যাত উপন্যাস পাঠের মধ্য দিয়ে বাংলা উপন্যাসের বিবর্তন শিক্ষার্থীরা বুঝতে পারবে।</p> <p>রবীন্দ্রনাথ থেকে শুরু করে একালের আখতারুজ্জামান পর্যন্ত সময়ের উপন্যাস পাঠের মধ্য দিয়ে শিক্ষার্থীরা সমৃদ্ধ হবে। বাংলা উপন্যাসের নানারূপের সঙ্গে পরিচয়ের ফলে পরবর্তীকালে যেকোনও উপন্যাস পাঠের ক্ষেত্রে তারা নিজেরাই নিবিড় পাঠে সমৃদ্ধ হয়ে আপন মন্তব্য সংযোজন করতে সমর্থ হবে। স্বাধীনতা পরবর্তী বাংলা উপন্যাসের পরিচয় এই পাঠের মধ্য দিয়ে হবে। বাংলাদেশের উপন্যাস পাঠের ফলে বাংলা উপন্যাসের আর একটি ধারার সঙ্গেও তাদের পরিচয় ঘটবে।</p>

	Course: 403/1 & 403/2	শ্রেষ্ঠগল্পঃ মানিক বন্দ্যোপাধ্যায়, তারাশংকর বন্দ্যোপাধ্যায়, নরেন্দ্রনাথ মিত্র এবং দীপেন্দ্রনাথ বন্দ্যোপাধ্যায়ের নির্বাচিত গল্প সুবোধ ঘোষের শ্রেষ্ঠ গল্প বিমল করের নির্বাচিত গল্প জ্যোতিরিন্দ্র নন্দীর নির্বাচিত গল্প মহাশ্বেতা দেবীর নির্বাচিত গল্প	বাংলা ছোটগল্পের বিখ্যাত গল্পকারদের শ্রেষ্ঠ গল্পগুলি পাঠের মধ্য দিয়ে শিক্ষার্থীরা বাংলা ছোটগল্পের বিবর্তনটি বুঝতে পারবে। বিশ শতকের বাংলা ছোটগল্পের যে বিষয়-বৈচিত্র্য, নানা মুখী ভাবনায় তার প্রকাশ এই পাঠের মধ্য দিয়ে তারা তা বুঝতে পারবে। একএকজন লেখকের এক এক ভাবনার প্রকাশ কীভাবে বাংলা ছোটগল্পকে সমৃদ্ধ করেছে তার বিস্তৃত পরিচয় এই পাঠের মধ্য দিয়ে ঘটবে।
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Ananda Chandra College, Jalpaiguri

Department of Botany

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.Sc Honours (1+1+1)	<p>PSO1. Students will acquire knowledge about the biodiversity of Algae, Fungi and Archegoniate including Bryophytes, Pteridophytes and Gymnosperms and learn about their ecological and economical importance.</p> <p>PSO2. The student will fascinate to learn the details of morphological, anatomical and embryological behaviour of angiosperms and learn about the phylogeny with taxonomic hierarchy for identification of angiosperms.</p> <p>PSO3. Students will enhance their knowledge towards environment, ecosystems, natural resources, biodiversity and conservation. They also improved their skill regarding industrial and environmental microbiology for sustainable development.</p> <p>PSO4. Students will develop special skill with computer programming, statistics and biology with big data to learn basic structural and functional properties of proteins, genomes, genes, etc. They will also gain the basic knowledge of biotechnology, mushroom culture technology, pharmaceutical and economic botany.</p> <p>PSO5. Students will understand the structure details of genetic material and learning the whole Central Dogma mechanism. They will also learn the chromosomal behaviour, mutation, and evolutionary genetics.</p>
B.Sc General (1+1+1)	<p>Students will understand the basic concept of plant diversity ecology, anatomy, hysiology, embryology and taxonomy. They also build their knowledge about recent trends such as biotechnology, mushroom culture technology, herbal technology, pharmaceutical and economic botany. They will become aware about the plant diversity at the ecosystem level, values and uses of biodiversity, loss of biodiversity and different organizations associated with biodiversity management and conservation. Learn the importance of forestry in different commercial aspects like alcoholic</p>

	beverages, wood, avenue trees, ornamental plants, fruits and nuts for human welfare. The students will also develop skill in the industrial and environmental microbiology.
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Course Outcomes :

B.Sc. Honours

Year	Course Code	Course Title	Outcomes
PART-I	Paper- I (Th.)	Phycology, Mycology, Bryology, Pteridology	Learning the biodiversity and structural variation of algal and fungal species with respect to various phyla. Understanding the biodiversity of Archegoniate including Bryophytes and Pteridophytes.
	Paper- II (Th.)	Gymnosperm, Palaeobotany, Morphology, Anatomy	Understanding the biodiversity of Gymnosperm and the science of ancient environments. Learning the fundamental relevance of morphological and anatomical study of plant body.
	Paper- III (Practical.)	Corresponding to Paper- I and Paper- II	Corresponding to Paper- I and Paper- II
PART-II	Paper- IV (Th.)	Systematics of Angiosperms, Utilization of Plants, Ecology, Plant Geography	Learning the phylogeny with taxonomic hierarchy for identification of angiosperms. Also acquired knowledge about biosystematics related to taxonomy. Fascinate to learn the functional ecosystems which regulate the relationship with other organisms and known all aspects of plant distribution.
	Paper- V (Th.)	Cell Biology, Plant Biochemistry	Learning the structural behaviour of bio molecules and explore different cell organelle with cell division. The student will understand the mechanism of photosynthesis and Respiration. They get acquire knowledge about carbohydrate, lipid, and nitrogen metabolisms including different signal-transduction cascade.
	Paper- VI (Practical.)	Corresponding to Paper- IV and Paper- V	Corresponding to Paper- IV and Paper- V
PART-III	Paper- VII (Th.)	Genetics, Plant Breeding, Molecular Biology	Learning Mendel's laws of inheritance. Also, know about chromosomal variation, extra chromosomal inheritance, chromosomal behaviour, mutation, and evolutionary genetics. Understanding in details the central dogma of molecular biology through replication, transcription and translation.
	Paper- VIII (Th.)	Plant Physiology, Biostatics	Learning the biological and chemical processes of an individual plant cell. The

			students will learn about the hypothesis of basic statistical tests in large sample also helps to understand the fundamentals of probability and its distribution.
Paper- IX (Th.)	Microbiology, Plant Pathology, Plant Biotechnology		Understanding the Microbial world including virus and bacteria. Learning the structural variation of various fungal species from different phylum with their biotechnological application in different aspects and acquired knowledge about the plant pathogen. Learning the development of new plant traits or varieties that are used in biotechnological application in different field.
Paper- X (Practical.)	Genetics, Plant Breeding, Plant Physiology, Biostatistics		Corresponding to Paper- VII and Paper- VIII
Paper- XI (Practical.)	Microbiology, Plant Pathology		Corresponding to Paper- IX

Course Outcomes

B.Sc General

Year	Course Code	Course Title	Outcomes
PART-I	Paper- I (Th.)	Diversity of microbes and Cryptogams	Understanding the Systematic, extensive knowledge about the morphological and anatomical diversity of Microbes, Algae, Fungi and Archegoniate and learn about their ecological and economical importance.
	Paper- II (Th.)	Diversity of seed plants and their systematics; Anatomy	Fascinate to learn the functional ecosystems which regulate the relationship with other organisms and known all aspects of plant distribution. Learning the fundamental relevance of morphological and anatomical study of plant body.
	Paper- III (Practical.)	Corresponding to Paper- I and Paper- II	Corresponding to Paper- I and Paper- II
PART-II	Paper- IV (Th.)	Cell Biology and Genetics	Learning the structural behaviour of bio molecules and explore different cell organelle with cell division. Learning Mendel's laws of inheritance. Also, know about chromosomal variation, extra chromosomal inheritance, chromosomal behaviour, mutation, and evolutionary genetics.
	Paper- V (Th.)	Plant Physiology and Biochemistry, Ecology, Plant Geography	The student will understand the mechanism of photosynthesis and Respiration. They get acquire knowledge about carbohydrate, lipid, and nitrogen metabolisms including different signal-transduction cascade. Fascinate to learn the functional ecosystems which regulate the relationship with other organisms and known all aspects of plant distribution.
	Paper- VI (Practical.)	Corresponding to Paper- IV and Paper- V	Corresponding to Paper- IV and Paper- V

PART-III	Paper- VII (Th.)	Plant Pathology, Plant Biotechnology, Plant Breeding, Utilization of Plants	Learning the structural variation of various fungal species from different phylum with their biotechnological application in different aspects and acquired knowledge about the plant pathogen. Understanding the Microbial world including virus and bacteria. Learning the development of new plant traits or varieties that are used in biotechnological application in different field.
	Paper- VIII (Practical.)	Plant Pathology, Plant Biotechnology, Plant Breeding	Corresponding to Paper- VII

Department: CHEMISTRY

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.Sc. Honours	<p>On completion of the Programme, the students would be able to:</p> <p>PSO1. <i>Theory and Knowledge:</i> have a firm foundation in the fundamentals and application of current chemical and scientific theories including those in Analytical, Inorganic, Organic and Physical Chemistry. Gain knowledge about key principles of Biochemistry to understand the life process. Develop mathematical foundations of quantum chemistry to be applied in practical, hands-on experience with modern quantum mechanics software packages in the future research program.</p> <p>PSO2. <i>Instrumentation:</i> understand theoretical concepts of instruments that are commonly used in most chemistry fields as well as interpret and use data generated in instrumental chemical analyses.</p> <p>PSO3. <i>Quantitative Skills:</i> design and carry out scientific experiments as well as accurately record and analyse the results of such experiments. Therefore, students would be skilled to communicate the results of scientific research work in oral, written and electronic formats to both scientists and the public at large in the future.</p> <p>PSO4. <i>Laboratory Skills:</i> skilled in problem-solving, able to employ critical thinking and scientific inquiry in the performance, design, interpretation and documentation of laboratory experiments, at a level suitable to succeed at an entry-level position in the chemical industry or a chemistry research program.</p> <p>PSO5. <i>Laboratory safety:</i> work in the laboratory following routine acceptable safe laboratory practices to handle hazardous chemicals (especially those of unknown toxicity), glassware, and common laboratory equipment.</p> <p>PSO6. <i>Teamwork mentality:</i> have demonstrated an ability to work effectively in diverse teams in both classroom and laboratory.</p> <p>PSO7. <i>Societal impacts:</i> appreciate the central role of</p>

	chemistry in our society and use this as a basis for ethical behaviour in issues that chemists are facing including an understanding of safe handling of chemicals, environmental issues, health and medicine.
B.Sc. General	On completion of the Programme, the students would be able to: PS01. Present the basic chemical aspects of the field. PS02. Students will gain both practical and theoretical knowledge of main domains of chemistry: organic, inorganic, physical, analytical, cosmetic and pesticide Chemistry. PS03. Acquire comprehensive knowledge as well as skill and innovatively using this knowledge to generate self-employment. PS04. Understand the concept of practical techniques and analytical procedures. PS05. Plan and execute the problems.

Course Outcomes

B.A./B.Sc Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	Organic Chemistry: Gr-A Inorganic Chemistry: Gr-B	The course focuses on nurturing the fundamental ideas of organic chemistry, such as structure, mechanism, reactivity and factors affecting the reactivity. To learn and recognise various mechanism and reactions of both aliphatic and aromatic hydrocarbons. To understand the fundamentals of stereochemistry. Understand Bohr's theory, Zeeman effect, various quantum numbers, Hund's rule, Aufbau principle. Calculation of ground state term symbol of atoms and ions.

		Physical Chemistry: Gr-C	<p>Develop the concepts of chemical bonding, radius ratio rules, lattice energy, solvation energy, chemical periodicity, ionic potential, electronegativity and polarisation.</p> <p>Gain the concept of kinetic theory of gas, Maxwell's speed distribution and deviation of gases from ideal behaviour. Gain knowledge of different laws of thermodynamics and their applications.</p>
	Paper- II	Practical: Organic Chemistry	<p>The practical paper involves the qualitative analysis of organic compounds and to learn the preparative methods of different organic compounds</p>
2nd	Paper -III	Organic Chemistry	<p>This paper focuses to develop the understanding of the synthetic organic chemistry through different methods of preparation and reactions of haloalkanes, haloarenes, oxygen and nitrogen containing functional groups. The understanding of reactions and functional group transformations helps the students to adopt the plausible mechanism for the reaction aided by the knowledge of</p>

			different reagents and stereochemistry.
	Paper- IV	Inorganic Chemistry	<p>Obtain the knowledge of basic working principles of G.M counter and various types of mass spectrograph.</p> <p>Gain knowledge on radioactivity, radioactive equilibrium and various applications of radioactivity.</p> <p>Comparative study of various groups of periodic table</p>
3rd	Paper -V	Physical Chemistry	<p>Obtain the concept of chemical equilibrium and various colligative properties. Learn theories of conductance and electrochemistry.</p> <p>Understand some important topics such as solubility, solubility product, ionic product of water and conductometric titrations etc. Gain knowledge about different types of electrodes and applications of electrolysis in metallurgy and industry.</p>
	Paper -VI	Practical: Qualitative inorganic analysis	Students will learn inorganic qualitative analysis of mixture of different inorganic salts.
	Paper -VII	Organic Chemistry	This course incubates the idea of the orbital symmetry driven reaction such as cycloaddition,

			<p>electrocyclic and sigmatropic reaction and their significance in modern synthetic organic chemistry. The synthetic utilization of active methylene compounds are well explored for the synthesis of various cyclic and acyclic organic compounds.</p> <p>The introduction to spectroscopic techniques such as UV, IR and NMR and develop the approach to determine the structure of unknown organic compounds.</p> <p>Provides basic concepts of biomolecules such as amino acids, carbohydrates and nucleic acids</p> <p>Learn about preparation, colour theory, constitution and classification of synthetic dyes.</p> <p>To acquire the theoretical understanding of chemistry of compounds having nitrogen containing heterocyclic compounds, polynuclear hydrocarbons and their preparation by applying the concepts of synthetic organic chemistry learnt so far.</p>
	Paper -VIII	Inorganic Chemistry	<p>Develop the concept of wave-particle duality, shapes and sizes of atomic orbitals, molecular orbital theory and band theory.</p>

			Students will also get a thorough insight on coordination complexes, crystal field theory, thermodynamic aspects of metal complexes and chemistry of pi acid ligands, organometallic compounds and reactions in non aqueous solvents.
	Paper-IX	Physical Chemistry	Gain knowledge about order of a reaction and its determination. Know about kinetics of complex reactions. Obtain a deep insight of molecular spectroscopy in analyzing chemical samples. Understand the application of Quantum Mechanics in some simple chemical systems such as hydrogen atom. Provides a deep insight on the basic principles of Photochemistry and various photochemical processes. Understand the important role of photochemical reactions in biochemical processes.
	Paper-X	Analytical Chemistry: Gr-A Industrial Chemistry: Gr-B	Gr-A: Students will develop the concept for treatment of analytical data and learn various computer languages and operating systems. Develop technique for gravimetric analysis, chromatography, solvent extraction, ion exchange chromatography.

			<p>Nurture the concept of electroanalytical chemistry.</p> <p>Gr-B: Students will gain the concept of solid, liquid and gaseous fuel learn the general principles, properties classification, use and applications of inorganic/organic materials of industrial importance such as glass, ceramic, cement, fertilizers, fibres, paint, rubber, drug, soap, detergent, oil and fats etc.</p>
	Paper-XI	Practical: Quantitative inorganic analysis	<p>Students will learn analytical experiments on permanganometry, dichrometry, iodometry, separation and estimation of inorganic mixtures such as iron/copper, iron/chromium, iron/calcium.</p>
	Paper-XII	Practical: Physical Chemistry	<p>Viscosity and surface tension measurement of a liquid.</p> <p>Study the kinetics of acid hydrolysis of ester.</p> <p>Determine pH of a solution by colour matching method.</p> <p>Perform the conductometric titration of strong acid vs. strong base and weak acid vs. strong base.</p> <p>Determine the distribution coefficient of iodine between chloroform and water.</p>

B.A./B.Sc General

Year	Paper/Course	Course Title	Outcomes
1st	Paper -I	Organic Chemistry: Gr-A Physical Chemistry: Gr-B	<p>The course focuses on nurturing the fundamental ideas of organic chemistry, such as structure, mechanism, reactivity and factors affecting the reactivity and to develop understanding of the synthetic organic chemistry through different preparation method and reactions of haloalkanes, haloarenes and oxygen containing functional groups.</p> <p>Gain the concept of kinetic theory of gas, Maxwell's speed distribution and deviation of gases from ideal behaviour. Gain knowledge of different laws of thermodynamics and their applications.</p>
	Paper- II	Inorganic Chemistry: Gr-A Physical Chemistry: Gr-B	<p>This course provides knowledge about natural radioactivity and its application: fission and fusion reactions fundamental atomic structure, elementary idea about four quantum numbers, chemical bonding and the periodicity of elements in the periodic table, limitations of valence bond theory and their use for predicting the shapes and hybridization of molecules.</p> <p>To obtain the concept of chemical equilibrium and various colligative properties.</p>

	Paper -III	Practical: Organic Chemistry	Learn the techniques of organic qualitative analysis and different methods of preparation for organic compounds.
2nd	Paper- IV	Organic Chemistry: Gr-A	Preparation and synthetic application of Grignard reagent. Understand the chemistry of aromatic and aliphatic amines. Explore the concept of aromaticity and substitution reaction in aromatic hydrocarbons. Obtain knowledge about optical and geometrical isomerism. Introduction to the carbohydrate chemistry.
		Inorganic Chemistry: Gr-B	Students will gain knowledge about group chemistry, extraction of metals, Chemistry of some inorganic compounds such as heavy water, silicone etc. and some industrially important compounds such as detergent, terylene, superphosphate etc.
	Paper -V	Inorganic Chemistry: Gr-A	Students will develop the concept of coordination chemistry, stereoisomerism in inorganic complexes. Develop the concept for principles of redox titration. Students will gain knowledge about order of a reaction and its determination. Know about kinetics of complex reactions. Learn theories of conductance and electrochemistry and different types of electrodes. Understand some important
		Physical Chemistry: Gr-B	

			<p>topics such as solubility, solubility products etc. Obtain the deep insight of molecular spectroscopy, photochemistry and surface chemistry.</p>
	Paper -VI	Practical: Inorganic Chemistry	Learn the techniques of inorganic qualitative analysis of different mixture of inorganic samples.
3rd	Paper -VII	Industrial Chemistry	<p>Learn the general principles, properties classification, use and applications of inorganic/organic materials of industrial importance such as glass, ceramic, cement, fertilizers, fibres, paint, rubber, drug, soap, detergent, oil and fats, polymers, fuels etc.</p> <p>Gain the concept about non conventional sources of energy and theories of electroplating and galvanisation.</p>
	Paper - VIII	Practical: Quantitative inorganic analysis and project work.	Students will learn analytical experiments on permanganometry, dichrometry, iodometry, and application based project work.

Ananda Chandra College, Jalpaiguri

Department of Economics

Programmes offered by the Department:

- 1) B.A. Honours Course in Economics
- 2) B.A. General Course in Economics

Programme Specific Outcomes: At the end of the programme, students will be able use critical thinking skills, quantitative reasoning skills, problem solving skills, specialized knowledge & application of skills and communication skills. Students are expected to understand how to use empirical evidence to evaluate the validity of an economic argument, use statistical methodology, interpret statistical results and conduct appropriate statistical analysis of data. Students are expected to be able to communicate effectively in written, oral and graphical form about specific issues and to formulate well-organized written arguments that state assumptions and hypotheses supported by evidence. Keeping the programme outcomes in view, the programme specific outcomes of Honours Course and General Course in Economics are to:

- Apply economic theories and contemporary social issues as well as formulation and analysis of policy.
- Apply both oral and written communication skills within the discipline and also in related fields and help them to grow interest in diversified fields.
- Assist students to utilize or browse different websites for secondary data collection, generating concepts for various facets of economic studies and gather latest information provided by various Universities, UGC and ICSSR.
- Recognize the role of ethical values in economic decisions and promotion of leadership qualities and motivating students in preparing for various competitive examinations, NET, SET, and IES etc.

Course Outcomes

B. A. Honours

Year	Paper/ Course	Course Title	Outcomes
1 st	Paper -I	<p>Group-A: Micro Economics</p> <p style="text-align: center;">*****</p> <p>Group-B: Macro Economics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Demonstrate an understanding, usage and application of basic economic principles like insatiable wants, scarcity and choice. • Describe and apply the methods for analyzing consumer behaviour through demand and supply, elasticity and marginal utility. • Analyse producer behaviour by using the concepts iso-quants, iso-cost, expansion paths. • To understand the concepts of cost, nature of production and its relationship to business operations. • To apply marginal analysis to the “firm” under different market conditions. • Ability to differentiate between different types of production functions like fixed proportion, Cobb Douglas, CES Production function by calculating the impact of changes in the inputs, the relevant efficiencies, and the yields of a production activity. <p style="text-align: center;">*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Explain the concepts of Macroeconomics and its

			<p>interrelations with Microeconomics.</p> <ul style="list-style-type: none"> • Identify the major economic indicators like NI, GNP, GDP, savings, investment used to access the state of the macro economy. • Associate the current economic phenomenon like inflation, unemployment with existing theory and put their views on contemporary economic issues. • Understanding the idea of classical dichotomy and neutrality of money. • Compare and contrast the circumstances under which it makes sense to apply the Keynesian and Neoclassical perspectives. • Detailed understanding of multiplier analysis. • Understand the effectiveness and limitations of fiscal and/or monetary policy for a given state of the economy.
Paper- II	<p>Group-A: Mathematical Economics</p> <p>*****</p> <p>Group-B: Statistics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop critical thinking and problem solving ability. • Acquire analytical skills. • Evaluate range of problems using mathematical techniques involving understanding of and application of methods like calculus and algebra. • Use mathematics to solve problems in economics and related subjects. • Demonstrate knowledge and understanding of the underlying mathematical principles associated with constrained utility or output maximization, cost minimisation, Leontief input-output analysis and few others used in the study of economics. 	

			<ul style="list-style-type: none"> • Model economic questions in mathematical framework. • Demonstrate the use of mathematical reasoning by justifying and generalizing patterns and relationships. <p style="text-align: center;">*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Identify and define basic statistics techniques which are needed for studying in economics. • Outline the distinct method of using raw data in the form of frequency distribution. • Analyze statistical data graphically using frequency distributions and cumulative frequency distributions. • Analyze statistical data using measures of central tendency, dispersion and location. • Apply knowledge of statistical measures such as Mean, Median and Mode for analysis and interpretation of data. • Analyze the different measures of dispersion that are useful in the field of economics. • Explain the meaning of correlation and regression with special emphasis on scatter diagram, covariance, rank correlation, and different regression model.
2 nd	Paper -III	<p>Group-A: Micro Economics</p> <p style="text-align: center;">*****</p> <p>Group-B: Macro Economics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Employ intermediate-level theoretical knowledge to examine the microeconomic influences on individuals and organisations. • Apply microeconomic models of consumer and producer

			<p>behaviour to design solutions to practical economic issues and real-world scenarios.</p> <ul style="list-style-type: none"> • Identify the kind of market structure within which a firm operates. • Explain factors affecting short-run and long-run equilibrium under each market structure. • Describe pricing strategy under each market structure. • Master algebraic and calculus tools needed to analyze microeconomic issues when many relevant variables change concurrently. • Analyse the causes and consequences of different market conditions. • Explain General Equilibrium and Welfare Economics. <p style="text-align: center;">*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Understand the concepts of IS-LM Model in a closed economy with special emphasis on Keynesian Liquidity Preference Scheduled, Liquidity Trap, Money Market and Goods Market. • Analyze the principle of ‘Effective Demand’ with the help of the Complete Keynesian Model. • Illustrate the meaning of Open Economy Model with special emphasis on foreign trade multiplier, Mundell-Fleming model, exchange rate, PPP, BOP etc. • Demonstrate the meaning and function of demand for money and money supply (M1, M2, M3 and M4), high powered money, monetary and paper system,
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			<p>illustrate various version of quantity theory of money.</p> <ul style="list-style-type: none"> • Illustrate the meaning of deposit multiplier, currency multiplier, reserve multiplier, credit multiplier, and money multiplier in the context of the theory of money supply. • Explain monetary policy, Open Market Operation, Statutory Liquidity Ratio, Bank Rate, Repo Rate and variable reserve ratio.
	Paper- IV	<p>Group-A: Mathematical Economics</p> <p>*****</p> <p>Group-B: Statistics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop the ability to apply the knowledge of the differential and difference equations which will enable them to analyze dynamics of the processes. • Gain a proper understanding of game theoretic concepts and modelling covering equilibrium in static and dynamic games, with varying information structures. • Acquire the ability to solve simple games using various techniques to apply game models to the analysis of decisions in various business environments. • Explain the applications of linear programming. • Construct linear programming models and apply appropriate solution methods like graph or simplex. <p>*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Elementary Probability Theory including sample spaces and

			<p>events, probability axioms and properties and conditional probability.</p> <ul style="list-style-type: none"> • Students will also understand random variables and probability distributions with special emphasis on uniform, binomial, normal, Poisson and exponential random variables. • Methods of sampling and census and point of interval estimation. • Students will understand the basic concepts of statistical inference in Linear Regression Model. Chi Square, t test and F test will also understood.
3 rd	Paper –V	<p>Group-A: Development Economics</p> <p>*****</p> <p>Group-B: Environmental Economics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Understand the conceptions of development; distinguish between economic development and economic growth, measurement of economic development and economic growth, human development indices and factors of economic growth. • Understand the meaning of poverty and inequality, measures of poverty, causes of poverty, poverty alleviation programmes, growth vs. equality, and causes of inequality in India and policy measures. • Theories of economic development such as Marxian Theory, Rostow’s Theory, Nelson’s Theory, Leibenstein’s Theory, Lewis Theory and Sen’s Model are also discussed. • This course also highlighted the environment and sustainable development. <p>*****</p> <p>After completion of the course the learners will be able to:</p>

			<ul style="list-style-type: none"> • The students will be able to learn that economic objectives are not necessarily in conflict with environmental goals, and that markets mechanisms can be useful to improve environmental quality. At the end of the course, the student will be able to place environmental problems in an economic framework • The students will be able to use bio-economic models to study problems in fisheries under various property rights regimes. The students will be able to estimate the rotation period of scientific forestry both for single and multi-period forestry and how strategic behaviour of stakeholders in a local institution determines the outcome in forest and water management. • The student will be able to identify the various policy alternatives that can be applied to address an environmental problem. The student will also be able to use market and non-market methods and apply them to estimate the extent of welfare gain or loss associated with any development and conservation programmes. They will also be able to identify factors that determine international cooperation to mitigate global environmental problems.
Paper –VI	<p>Group-A:International Economics</p> <p>*****</p> <p>Group-B: Public Economics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Identify the basic difference between inter-regional and international trade, understand how international trade has helped countries to acquire goods at cheaper cost and explain it through the various international trade theories. • Understand the different Theories of International Trade such as Adma Smith’s theory, 	

			<p>Ricardo's theory, Heckscher-Ohlin theory, Leontief Paradox and Rybczynski's theory.</p> <ul style="list-style-type: none"> • Understand the different Trade Policy by which any country's international trade governs. Tariff and non-tariff barriers, Stolper-Samuelson theory also learned. • Understand the meaning of Balance of Payment accounts and BOT in an economy. • Understand the role of institution like IMF, WTO AND IBRD in international trade. <p style="text-align: center;">*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • After completion of this paper, the students will learn about the meaning and scope of public finance, objectives and scopes of public finance, public goods and private goods, externalities and market failure, Coase theorem and the concept of a Mixed Economy. • Student will acquire the knowledge about principles of taxation, classification of taxes, shifting of taxes, impact and incidence of taxes, major trends in tax revenue of the central and the state governments of India. • Structure, pattern and policies of taxation in developing economies with special reference to India. • Trend and pattern of public expenditure, nature and magnitude of public debt, canon and effects of public expenditure, public debt and private debt, public borrowing and effects of public debt in India. • Budget system, techniques of budgeting, budget deficits, latest
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			Union budget with changing perspective
	Paper –VII	<p>Group-A: Indian Economic History</p> <p>*****</p> <p>Group-B: Indian Economic Problems and Planning</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Students will acquire the knowledge of theories of economic history, India between 1857 and 1947, class and power and an overview of colonial India. • The course envisages providing a broader perspective on the Indian economy from a historical point of view. The shifts that occurred from time to time in the structure of the Indian economy during the colonial phase and how the country had adjusted to such changes are discussed here. • It helps to familiarize the terms like imperialism, colonialism, drain of wealth, economic nationalism etc. which created a mark on Indian economy and society. • Understand the term agriculture and common property resources, investment and technology, agricultural production 1890-1947, credit market, famines and food security, agriculture marketing etc. • The legacy of colonialism had a deep influence in melding many economic decisions and structural arrangements since the attainment of freedom. The British rule marked a great impact on the primary, secondary, and even the tertiary sector of the country. • The demographic profile along with the hardships caused by famines and their consequences on the economic structure is detailed here. So, this course helps to gain knowledge on the historical dimensions and their inter linkages on the socio-

			<p>economic and political framework and how all these enabled the Indians to adapt to these structural changes.</p> <p>*****</p> <p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Understand the meaning of economic development since independence with special reference to major features of the Indian Economy, Planning, Indian development strategy, debates between growth and distribution, public sector vs. private sector and import substitution vs. export promotion. • Understand the major issues and their impact in Indian Agriculture such as land reform, green revolution, PDS, rural credit and agricultural marketing. • Understand the major issues in Indian industry and their impact such as industrial licensing, New Industrial Policy and the changing Indian state in the era of Globalisation. • Understand the ideas of Indian economic reforms since 1991. • Understand the policies in poverty including Sen's Entitlement Analysis, new industrial policy etc.
Paper –VIII	<p>Group-A: Financial Economics</p> <p>*****</p> <p>Group-B: Indian Economic Policy and Performance</p>	<p>After completion of the course students will be able to:</p> <ul style="list-style-type: none"> • This paper enables them to know the operation of the Indian financial System and activities in the financial markets. • It intends to familiarize the students with the basic concepts in financial economics. 	

			<ul style="list-style-type: none"> • To develop comprehensive knowledge on the role of finance in the operation of an economy. • Understand the “economic way of thinking” by which we mean the rational and purposeful utility maximizing choices made by individual agents, with the understanding of the trade-offs and opportunity costs such choices involve. • The ability to analyze, interpret and present economic data and the ability to write clearly expressing an economic point of view. • Understand the alternative approaches to economic problems through exposure to coursework in allied fields. Concentration in Financial Economics • Understand fundamental accounting definitions and principles. • Understand and analyze the fundamental operations of financial markets and instruments. <p style="text-align: center;">*****</p> <p>After completion of the course students will be able to:</p> <ul style="list-style-type: none"> • Develop ideas of the meaning and scope of small scale industries, problems of India’s small scale industries, role of cottage and small scale industry in India’s economic development. • Understand the importance of industrial labour, industrial relations, industrial disputes and social Securities in India. • Understand the meaning of the India’s monetary system, Money supply, money market, functions
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			<p>of the RBI, monetary policy and capital market.</p> <ul style="list-style-type: none">• Students will understand the India's foreign trade and its problem and BOP problems and its remedies.• The importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.
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Course Outcomes

B.A. General

Year	Paper/ Course	Course Title	Outcomes
1 st	Paper -I	Group-A: Micro Economics	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop understanding of the introductory tools and methods of economic analysis that will serve as the basis for other courses in economics such as Macroeconomics, Economic Analysis, Managerial Economics, and Economic Resources and also to apply it in local, regional, national and international scenario. • Get introduced to the framework for learning about consumer behaviour and analyzing consumer decisions. • Get familiarized with the concepts of supply, demand and their elasticities and the basic forces that determine equilibrium in a market economy and also facilitate analysis in business applications. • Summarize the law of diminishing marginal utility and describe the process of utility maximization • Get acquainted with the production and cost structure under different stages of production; calculate and represent graphically short-run and long-run costs of production • Able to solve basic microeconomic problems. • Use the fundamental techniques to think about a number of policy questions related to the operation of the real economy. • Analyze the behaviour of markets and industries; asses and justify the behaviour of output markets. • Understand and apply the various decision tools to understand the market structure.

		<ul style="list-style-type: none"> • Understand the optimal pricing and output decisions under various market structures by use of marginal analysis. • Determine the profit maximizing price and quantity of resources in factor markets under perfect and imperfect competition by use of marginal analysis.
Paper- II	Group-A: Macro Economics	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Define and measure Gross Domestic Product, national income, consumption, savings, investment, inflation and BOP in an open economy. • Explain the basic functioning of the macro economy using the AD-AS curves; the equilibrium levels of real GDP and price level; define aggregate demand (AD) and explain the factors that cause it to change; define aggregate supply (AS) and explain the factors that cause it to change. • Understanding of the concept of money in a modern economy, monetary aggregates, demand for money, money supply and its determinants, quantity theory of money, liquidity preference and rate of interest • Understanding the tenets of Keynesian Economics and apply the tenets through the aggregate demand and supply model; identify the Keynesian portion of the AS curve and explain the logic for it. • Make a comparative analysis of Classical and Keynesian output and employment. • Understanding the concept of multiplier and multiplier analysis with AD curve. • Understanding various real economic issues and evaluating policy outcomes.

	Paper -III	Group-A: Indian Economics	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • It will help students in understand the basic concept of Indian economy and student will be able to understand government policies and programs. • The course also highlighted the main features of LDCs, national income distribution, population problem, agriculture and land reform in India. • It helps in developing understanding of the students related to different sectors of Indian Economy. Students will be able to understand how planning and infrastructure support can develop an economy. • After studying the structure aspects of Indian Economy, students will be exposed to economic reforms in India and problems of Indian economy. A little understanding of India and Global economy will also be included.
2 nd	Paper- IV	Group-B: Micro Economics	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Employ intermediate-level theoretical knowledge to examine the microeconomic influences on individuals and organisations. • Apply microeconomic models of consumer and producer behaviour to design solutions to practical economic issues and real-world scenarios. • Identify the kind of market structure within which a firm operates. • Explain factors affecting short-run and long-run equilibrium under each market structure. • Describe pricing strategy under each market structure. • Master algebraic and calculus tools needed to analyze microeconomic issues when many relevant variables change concurrently.

			<ul style="list-style-type: none"> Analyse the causes and consequences of different market conditions. Explain General Equilibrium and Welfare Economics.
Paper –V	Group-B: Macro Economics		<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> Understand the concepts of IS-LM Model in a closed economy with special emphasis on Keynesian Liquidity Preference Scheduled, Liquidity Trap, Money Market and Goods Market. Analyze the principle of ‘Effective Demand’ with the help of the Complete Keynesian Model. Illustrate the meaning of Open Economy Model with special emphasis on foreign trade multiplier, Mundell-Fleming model, exchange rate, PPP, BOP etc. Demonstrate the meaning and function of demand for money and money supply (M1, M2, M3 and M4), high powered money, monetary and paper system, illustrate various version of quantity theory of money. Illustrate the meaning of deposit multiplier, currency multiplier, reserve multiplier, credit multiplier, and money multiplier in the context of the theory of money supply. Explain monetary policy, Open Market Operation, Statutory Liquidity Ratio, Bank Rate, Repo Rate and variable reserve ratio.
Paper –VI	Group-B: Indian Economics		<p>After completion of the course students will be able to:</p> <ul style="list-style-type: none"> Develop ideas of the meaning and scope of small scale industries, problems of India’s small scale industries, role of cottage and small scale industry in India’s economic development. Understand the importance of industrial labour, industrial relations, industrial disputes and social Securities in India.

			<ul style="list-style-type: none"> • Understand the meaning of the India's monetary system, Money supply, money market, functions of the RBI, monetary policy and capital market. • Students will understand the India's foreign trade and its problem and BOP problems and its remedies. • The importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.
3 rd	Paper - VII	<p>Group-A: Development Economics</p> <p>*****</p> <p>Group-B: Elementary Statistics</p>	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Demonstrate familiarity with some central themes, contemporary issues and indicators of economic development. • Understanding of the difference between growth and development, theories and strategies of growth and development and use it in analytical modelling. • Demonstrate the major growth theories like balanced and unbalanced growth • Understanding the role of capital formation, significance of agriculture and industry in developing countries, poverty and population issues facing the world, international trade, and importance of foreign investment. • Ability to explain the interaction of economic growth, and poverty and inequality • Analyse empirical evidence on role of IMF and World Bank in economic development of LDCs. <p>*****</p> <p>After completion of the course the learners will be able to:</p>

			<ul style="list-style-type: none"> • Explain the use of data collection and statistics as tools to reach reasonable conclusions. • Identify types of data, examine and interpret the basic principles of describing and presenting data. • Organize, manage and analyze statistical data graphically using frequency distributions and cumulative frequency distributions. • Represent data using line diagram, bar diagram, pie charts and pictogram • Represent data in frequency distributions using histograms, frequency polygons and ogives. • Summarize data using the measures of central tendency such as mean, median, mode - grouped and ungrouped data cases. • Describe data using the measures of variation such as range, mean deviation, quartile deviation and standard deviation.
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Ananda Chandra College, Jalpaiguri

Department of Education

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.A.Honours	<p>On completion of the course, the students would be able :</p> <p>PSO1. To enable students have clarity about the philosophy behind the discipline.</p> <p>PSO2. To the various foundation of education, like philosophical, psychological, sociological, historical foundation.</p> <p>PSO3. To develop the comparative and critical faculty of students by guiding them through various schools of thoughts and time frames related to the discipline.</p> <p>PSO4. To enable an interdisciplinary holistic understanding so as to allow they apply the disciplinary discourses into academic and practical use.</p> <p>PSO5. To develop in the students the potency for effective participation in teaching-learning dynamics.</p> <p>PSO6. To develop in the students methodical approach towards teaching and train them as competent future teachers/ education facilitators.</p>
B.A. General	<p>On completion of the course :</p> <p>PSO1. Students are realized to the various foundation of education, like philosophical, psychological, sociological, historical foundation.</p> <p>PSO2. Student gets knowledge regarding the meaning and concept of education.</p> <p>PSO3. Students are learning the various aspects of educational process.</p> <p>PSO4. Skills related to professions and soft skills are enhanced.</p> <p>PSO5. Students are exposed to the culture of various societies.</p> <p>PSO6. Students are enabled enough to relate theories with the practical life.</p> <p>PSO7. Students are learning the new generation education system.</p> <p>PSO8. Students are relating various education systems.</p> <p>PSO9. Students are relating to develop and education process.</p> <p>PSO10. Students are enable in value judgement.</p>

Course Outcomes

B.A. Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	Philosophical and Sociological Foundation of Education	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Understand of the meaning, aims, objectives and functions of education. • Understand of the roles of Philosophy and Sociology in Education. • Understanding of the attempts of some great educators for the evolution of sound philosophy of education and a better understanding of the process of education. • Understanding of major components in and their interrelationship. knowledge of the structure and functions of the society and the process of social interaction for a change towards better human relationships.
	Paper- II	Educational Psychology and Pedagogy	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Understanding the structure and functions of higher 'mental processes'. • Enable the student to understand the meaning and scope of educational psychology. • Enable them to understand the dimensions of growth (e.g. social, emotional, creative and intellectual) and the causes of individual differences. • Enable them to understand different aspects of personality and means of developing and integrated personality • Understanding of the process of learning and teaching and problems of learning. • Initiate students to the field of pedagogy.
2 nd	Paper -III	Development of Education in India	<p>After completion of the course the learners will be able to:</p>

			<ul style="list-style-type: none"> • Students understand the development of education in India historical perspective. • Understand the salient features of education in ancient, medieval and British India. • Acquaint with significant points of selected educational documents and reports of these periods • Adequate knowledge of the recommendations of various commissions and committees on Indian Education.
	Paper- IV	Issues and Trends in Contemporary India	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop understanding of significant trends in contemporary education. • Develop awareness of various organizations and their role in the implementation of policies and programmes. • Focus attention on certain major national and social issues and role of education in relation to them. • Acquaint with the role of technology / mass media in spreading education among the masses. • Develop understanding of the alternative systems / modes of education and their implications in the Indian scenario.
3rd	Paper –V	Educational Evaluation and Statistics	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop understanding of the concepts of measurement and evaluation in the field of Education. • Acquaint with different types of measuring instruments and their uses. • Acquaint with the principles of test construction — both education and psychological. To develop understanding of the concepts of validity reliability and their importance in education in education measurement.

			<ul style="list-style-type: none"> • Develop the ability to organize relevant educational data. • Development the ability to use various statistical measures in analysis and interpretation of educational data. • Develop the abilities to interpret test data result.
	Paper –VI	Educational Management And Educational Technology	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Develop knowledge and understanding of the meaning, scope process and types of management. • Develop the ability to identify the roles of participating members (individual or collective) and to plan various institutionalized managerial activities. • Develop ability of making objective decision in educational management. • enables the students to understand about the concept, nature and of educational technology. • Expose the students to the basic developments in Educational Technology.
	Paper –VII	Educational Guidance and Curriculum Construction	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Help in understanding the meaning and importance of guidance and counselling. • Develop the ability to interpret various records for assessing the student's strengths and weaknesses. • Develop the ability to identify gifted children who need enrichment and to channelize their unique potentialities and positive way through proper guidance. • Develop the ability to identify exceptional children who need special care and help and to make such provisions for them. • Understand the concept of mental health and processes of

Course Outcomes

B.A. General

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	Education and Society	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • General aims of education along with nature, types and scope of education; • Major philosophies of education and function in education. • Curriculum and its planning and construction. • Play and activity oriented education and modern methods of teaching. Specific aims of education as per the present day needs.
	Paper- II	Education and Human Development	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • The meaning, scope and uses of psychology in education. • Human growth and development up to the stage of adolescence. • Meaning and purpose of learning and factors influencing learning. • The concept of intelligence, its meaning and measurement. • Heredity and environment and their roles causing individual difference
	Paper -III	Indian Heritage and Education	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • The system of Indian education during Vedic, Buddhist periods. • Britisher's influence of Indian education. • Role of Indian thinkers in education during British period. • Growth and development of Education since independence.
2 nd	Paper- IV	Education and Society	<p>After completion of the course the learners will be able to:</p>

			<ul style="list-style-type: none"> • General aims of education along with nature, types and scope of education; • Major philosophies of education and function in education • Curriculum and its planning and construction. • Play and activity oriented education and modern methods of teaching. Specific aims of education and per the present day needs.
	Paper –V	Education and Human Development	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Meaning, scope and uses of psychology in education. • growth and development up to the stage of adolescence • Learning and factors influencing learning. • Intelligence, its meaning and measurement. • Heredity and environment and their roles causing individual difference.
	Paper –VI	Indian Heritage and Education	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • Indian education during Vedic, Buddhist and Medieval periods. • Britisher's influence of Indian education. • Indian thinkers in education during British period. • Growth and development of Education since education.
3rd	Paper - VII	Evaluation and Guidance in Education	<p>After completion of the course the learners will be able to:</p> <ul style="list-style-type: none"> • The concept of evaluation. • The various aspect of evaluation • The concept of guidance • The types and significance of guidance.

Ananda Chandra College, Jalpaiguri

Department of English

Programme specific outcomes:

1. Comprehend various forms of literature like prose, poetry, drama and fiction
2. Apprehend different cultures and cultural sensibilities around the world
3. Perspectives of literary movements that existed in different ages.
4. Develop the knowledge of grammatical system of English language.
5. Define literary theory and terms in criticism.
6. Develop four language skills LSRW.
7. Write analytically in different formats like essays, reviews, research papers etc.
8. Scope of employability and entrepreneurship in the field of Media and Journalism, Teaching, Public Relations, Human Resource, Civil Service, Creative Writing etc.

B.A. HONOURS

Course outcomes:

First Year

- **Paper –I** (*History of English Language, History of Old and Middle English Literature, Literary Types, Rhetoric and Prosody*)
 - i. To have the foundational knowledge necessary for the course.
 - ii. To gain a comparative and critical understanding of the transitions through ages of language and literature.
 - iii. To gain an in-depth knowledge about the development and features of English language.
 - iv. To develop a conceptual knowledge about the literary structure and aesthetics.
 - v. To develop the practical skill of critical identification of structure and ornaments in a text.
 - vi. To have an understanding of the concerned literary period and its relation to the socio-cultural life of the period.
 - vii. To gain information about the important works and writers of the time.
- **Paper – II** (*Elizabethan, Jacobean and Caroline Literature*)
 - i. To gain a conceptual understanding of the concerned literary period and its relation to the socio-cultural life of the period.
 - ii. To gain information about the important works and writers of the time.
 - iii. To develop taste and awareness for traditional English poetry.
 - iv. To gain an understanding of the development of drama through a comparative-critical approach.

- v. To develop interest and comprehensive critical awareness on the poetic genres of the period through comparative understanding.

Second Year

- **Paper – III** (*Restoration and Eighteenth Century Literature*)
 - i. To gain a conceptual understanding of the literary history of the period.
 - ii. To develop understanding of socio-cultural influence on literature.
 - iii. To gain information about the important works and writers of the time.
 - iv. To gain an understanding of genre transition especially in relation to comedy.
 - v. To gain understanding on the different literary cultures in relation to the drama.
 - vi. To learn to distinguish literary texts based on the socio-cultural and political interest of the period.
 - vii. To gain an understanding of the beginning of the novel and essay as a genre and its associated reasons.
- **Paper – IV** (*Romantic Literature*)
 - i. To have a conceptual understanding of the literary history of the period.
 - ii. To develop understanding of socio-cultural influence on literature.
 - iii. To gain information about the important works and writers of the time.
 - iv. To develop an understanding of relation between philosophy and literary aesthetics.
 - v. To develop taste and awareness for Romantic Poetry with a critical understanding on the transition in style, aesthetics and thought.
 - vi. To understand the structural features of the essays written during the period.
 - vii. To develop a critical awareness of the transitions in the genre of novel and understanding on the gradual growth of the genre.

Third Year

- **Paper – V** (*Victorian Literature*)
 - i. To gain a conceptual understanding of the literary history of the period.
 - ii. To develop understanding of socio-cultural influence on literature.
 - iii. To gain information about the important works and writers of the time.
 - iv. To have knowledge and understanding of the theoretical tools of reading and understanding literature.
 - v. To gain knowledge on the origin and development of literary theory.
 - vi. To develop and practice their interpretive skills and textual analysis in reading literature.
- **Paper – VI** (*Twentieth Century Literature*)
 - i. To help understand the relationship between literary texts and social structures,
 - ii. To know the key texts in English of the twentieth century,
 - iii. To know how to read both formal and thematic aspects of texts in relationship to larger cultural and historical movements.

- iv. To have thorough knowledge of the major literary movements of the period.
- v. To be familiar with the major theoretical and critical terms of the period.
- vi. To gain an insight into the major issues related to the cultural and social context introduced in the literature of the 20th century.
- vii. To learn to appreciate the masterpieces of literature written in this literary period.

➤ **Paper – VII** (*Other Literatures in English*)

- i. To learn to appreciate of English Literature coming from nations other than Britain.
- ii. To gain understanding of the distinguishing traits in ‘other’ literature written in English based on theme, socio-cultural and historical context and use of English language.
- iii. To understand diverse English literary traditions – Western and non-Western.
- iv. To develop understanding of cultural interactions and its effect on literature.
- v. To explore authors and texts through the historically under-represented perspectives of race, ethnicity, gender, disability, postcoloniality, and sexuality.

➤ **Paper –VIII** (*Special Paper – Classical Literature*)

- i. To be introduced to the historical background of the European classical literature
- ii. To understand the origin of the European genre and literary canon.
- iii. To know the various literary terms and its implementation and significance in European literature.
- iv. To relate the historical past of the literary text and related conception with the literary present and understand literary transitions better.
- v. To appreciate the rich classical texts from the Greco-Roman literatures, and learn the conceptual nuances of the European Classical Literature.
- vi. To learn the major genres- epic, tragedy and comedy, along with the structure and themes of the classical literary traditions.

Ananda Chandra College, Jalpaiguri

Department of Geography

Courses offered by the Department:

- 1. B.A. Honours in Geography**
- 2. B.A. General in Geography**

Programme Specific Outcomes of B.A. Honours in Geography:

After completing B.A./ B.Sc. Honours in Geography, students will be able to:

- 1. Acquiring Knowledge on Physical Geography:** Student will gain the knowledge of physical geography. They will have a general understanding about the geomorphologic features of the surface of the earth. They will be able to correlate the knowledge of physical geography with the human geography.
- 2. Acquiring Knowledge on Human Geography:** They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.
- 3. Ability of Problem Analysis:** Students will be able to analyze the problems of physical as well as cultural environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.
- 4. Conduct Social Survey Project:** They will be eligible for conducting social survey project which is needed for measuring the status of development of a particular group or section of the society.
- 5. Application of GIS and modern Geographical Map Making Techniques:** They will learn how to prepare map based on GIS by using the modern geographical map making techniques.
- 6. Development of Observation Power:** As a student of Geography Honours Course they will be capable to develop their observation power through field experience and in future they will be able to identify the socio-environmental problems of a locality.

Course outcomes of Geography Honours

Part-I Honours

Paper-I Physical Geography

1. Gain knowledge on origin of the earth with the help of traditional and modern theories.
2. Gain concept on fundamental concepts of Geomorphology.
3. Know the interior of the earth and related earth movements.
4. Know the landform development processes.

Paper-II Physical Geography

1. Know the major geomorphic processes which are related to landform development.
2. Gain knowledge on normal cycle of erosion.
3. Know the structural geomorphic incidents like Uniclinal structure, folded structure etc.
4. Gain knowledge on basic hydrological phenomenon.

Paper-III Geography of Resources

1. Know the dynamic concepts of resource geography.
2. Know various natural resources and their management processes.
3. Gain knowledge on power resources and their global distribution patterns.
4. Conceptualize the crisis on Population resources and sustainable development practices.

Paper-IV Practical

1. Develop an idea about basic knowledge on scales for mapping and how to draw different types of scales; conversion of scales.
2. Forming a basic concept on map projections which is a must for drawing maps.
3. Know the Topographical maps and its applications.
4. Getting familiar with different minor instruments for reproduction of maps- enlargement, reduction.

Part-II Honours

Paper-V Geography of Economic Activities

1. This module deals with the scope and content of economic geography; economic activities- primary, secondary, tertiary.
2. Focuses on the concept of basic farming practices and their association with different natural and human conditions in different parts of the world.

3. Discussing the factors behind the localization of industries.
4. Conceptualize the different environmental pollution related to industries.

Paper-VI Population Geography

1. Know the basic knowledge of Population Geography.
2. Know the elements of population Geography with relevant concepts
3. Know the World distribution of population from different aspects of population characteristics.
4. Know the migration patterns of the world.

Paper-VII Settlement & Political Geography

1. Know the basic principles of Political & Settlement Geography
2. Gain knowledge on origin and growth of rural settlements.
3. Gain knowledge on origin, growth and distribution of urban population.
4. Gain knowledge on Political theories in relation to space like heartland, rimland, Geostrategy etc.

Paper-VIII Practical

1. Gain knowledge on basic surveying and leveling practices by survey instruments- Prismatic Compass, Dumpy Level, Plain Tale, Theodolite.
2. Getting familiar with underlying structures of the earth with the help of geological maps.
3. Know the rocks and minerals.

Part-III Honours

Paper-IX Climatology

1. Students will learn about the basic atmospheric phenomena and the climatic elements. They will be familiar with pressure belts, wind systems, monsoon and their importance.
2. Know the general atmospheric phenomena like condensation, wind circulation, air pressure, Monsoon etc.
3. Know the critical atmospheric phenomena like cyclone, El Nino and Lanina etc.
4. Comprehensive knowledge on Classification of World climates.

Paper-X Pedology & Biogeography

1. Acquire general idea on Pedology as a discipline of Soil Geography.
2. Make an assessment of soil composition and characteristics
3. Make awareness on soil erosion mechanism and conservation practices.

4. Know the Biogeography as discipline of plant and animal distribution over space.

Paper-XI Geography of India

1. Students can gain knowledge on regional geography of India: physical properties like relief, drainage, climate, soil, natural vegetation: their characteristics and distribution; deforestation and conservation of forest.
2. They also learn about the economic aspects of the country like agriculture, power resources and industries of India.
3. Familiarizing the problems of population growth, distribution and migration. Also making them aware of the different ethnic groups residing in India and the marginal groups.

Paper-XII Nature & Methodology in Geography

1. Learn the philosophical base of the discipline of Geography and its historical growth.
2. Know the major postulates of Geographical thoughts.
3. Familiarize the approaches of Geographical study
4. Know the techniques of data collection processes and preparation of field report.

Paper-XIII Social & Cultural Geography

1. Acquire the basic ideas of Social & Cultural Geography
2. Familiarize the basic concepts and themes of social geography- culture, community, society, group, languages, religion etc.
3. Know the divergent fields of Social Geography and Inequalities over the globe.
4. Know the Cultural Processes of the Globe.

Paper-XIV Optional Papers

Option-1 Agricultural Geography

1. Know the agricultural characteristics in different cultural and physical regions over the globe.
2. Illustrate the factors controlling agricultural practices.
3. Know the environmental consequences of agriculture, problems and finding the remedial measures.

Option-2 Population Geography

1. Know the processes of population data collection.
2. Know the elements of Population elements- age, sex, marital status, economic composition etc.
3. Familiarize different theories of population related studies

Option-3 River Geography

1. Know the basic concepts of fluvial processes and consequences.
2. Make ideas on channel processes and related geomorphology.
3. Know the insight ideas of the problems of river bank erosion.

Option-4 Urban Geography

1. Know the historic growth of Urban Geography and Urbanization process.
2. Know different theories of urban studies.
3. Experiencing the sphere of urbanization and related problems.

Option-5 Regional Planning

1. Acquire general idea of regional planning as a part of Geographic studies.
2. Know the processes of spatial organization and economic development.
3. Experiencing the knowledge of regional imbalances and uneven development processes.

Option-6 Cartography

1. Learn the philosophical base of the discipline of Cartography as a map making science.
2. Finding out the methods of triangulations and traversing
3. Solving mathematical problems related with surveying.
4. Construction of map projections for drawing proper maps.
5. Know the principles of Photogrammetry by aerial photographs.

Option-7 Environmental Geography

1. Conceptualize the scope, content and meaning of Environmental Geography.
2. Know the processes of environmental hazards and make management practices.
3. Highlight major and contemporary environmental issues.

Paper-XV Practical Geography

1. Gain knowledge on reading minor climatic instruments for data obtaining.
2. Gain skill on interpretation of Indian daily weather report.
3. Applications of statistical methods for solving geographic problems.
4. Gain knowledge on Remote Sensing and GIS as a tool of modern map making.

Paper-XV Practical Geography

1. Know the techniques of geographic data presentation by Cartograms.
2. Experiencing the processes of data collection from the field and preparation of field report.

B.A. General in Geography:

After completing B.A/B.Sc. Programme in Geography, students will be able to:

1. Knowledge outcomes:

- Demonstrate knowledge of physical and cultural features of the earth and locate them on a map.
- Know the basic concepts and terminologies used in Geography like interior of the earth, plate tectonics, sea floor spreading, population growth, disasters, composition and structure of atmosphere, hydrosphere, etc.
- Get information about the causes and effects of local, national and international problems like global warming, acid rain, ozone depletion, soil degradation, deforestation etc.
- Participation in field work make students aware about man environment relationships.

2. Skill outcomes:

- Carry out surveying and learn the art of map making and prepare maps for the areas with the help of surveying techniques.
- Gain knowledge of quantitative methods and their ability to use statistical and cartographic methods to solve geographical problems.
- Construct various types of projections and scales as per requirement of the study. Collect primary and secondary data in the field.
- Apply various statistical formulas to analyse data. Use cartographic techniques with the help of simple software techniques like MS Excel. Handle topographical and weather maps and interpret them.

Course outcome of Geography General

Part-I General

Paper-I Physical Geography

1. The students will be familiar with the earth's interior and related incidents e.g. earth movements and the related topography.
2. Acquire knowledge about different types of rock and their origin .Influence of the rocks on land form and topography.
3. Getting familiar with the concept of hydrology and related phenomenon.
4. Understanding the processes of erosion, deposition and resulting landforms.

Paper -II Climatology and Biogeography

1. Students will learn about the basic atmospheric phenomena and the climatic elements. They will be familiar with pressure belts, wind systems, monsoon and their importance.

2. Students can learn the significance of biogeography. They will also get to know about the geographic factors responsible for plant growth.

Paper-III Practical

1. Develop an idea about basic knowledge on scales for mapping and how to draw different types of scales; conversion of scales.
2. Forming a basic concept on map projections which is a must for mapping.
3. Know the Topographical maps and its applications.
4. Getting familiar with underlying structures of the earth with the help of geological maps.

Part II General

Paper-IV Human Geography

1. The students will be aware of the basic ideas on human geography in general, Social and population geography in particular.
2. They know man's adaptation in various environments.
3. Develop an idea about the world population distribution and the factors that lead to uneven distribution of the population and problem that is likely to arise due to an increase in the world population.
4. Gain knowledge on different types of settlement and characteristics and their definitions.

Paper-V Economic Geography

1. This module deals with the scope and content of economic geography; economic activities- primary, secondary, tertiary.
2. Focuses on the concept of basic agricultural geography; Cultivation and their association with different natural and human conditions of the following cereal crops: wheat, rice; plantation crops: rubber; agricultural systems of the world; commercial grazing –cattle and sheep rearing.
3. Discussing the factors behind the localization of industries; with special reference to the study of iron, steel and aluminum industry.

Paper-VI Practical

1. Able to reproduce, enlarge and reduce maps graphically.
2. Learn basic surveying procedures: chain and prismatic compass.
3. Getting the primary knowledge on Remote Sensing from aerial photo interpretation.
4. Gain practical knowledge on man-nature relationship from participation of field tour.

5. Able to write field report by collection of data from the field.

Part- III General

Paper-VII Regional Geography of India

1. Students can gain knowledge on regional geography of India: physical properties like relief, drainage, climate, soil, natural vegetation: their characteristics and distribution; deforestation and conservation of forest.
2. They also learn about the economic aspects of the country like agriculture, power resources and industries of India.
3. Familiarizing the problems of population growth, distribution and migration. Also making them aware of the different ethnic groups residing in India and the marginal groups.

Paper-VIII Practical

1. Lessons on different basic statistical methods used in geography and their uses in elementary research.
2. Lessons on cartographic representations of geographic/ spatial data.
3. Lessons on basic meteorological instruments like maximum and minimum thermometer, rain gauge, dry and wet bulb thermometer.

Ananda Chandra College, Jalpaiguri

Department of History

Programme Specific Outcomes

Programme offered by the Department:	Outcomes:
B.A.Honours	<p>PSO1.to have clear idea about the philosophy of the subject.</p> <p>PSO2.to grasp the inter-disciplinary holistic understanding of the subject and its academic and practical uses.</p> <p>PSO3.to develop empirical knowledge about the past of world as well as India for better understanding of the progress of the civilization in various parts of the globe.</p> <p>PSO4.to make the students competent for teaching and administrative works in future for serving the nation properly.</p> <p>PSO5.to develop in the students methodical approach towards history learning and train them for the practical social life.</p>
B.A. General	<p>PSO1. to have general idea about the glorious past of India and world togetherwith the understanding of the historical knowledge.</p> <p>PSO2. to grasp the inter-disciplinary holistic understanding of the subject and its academic and practical To have clear idea about past of human civilization</p> <p>PSO3. to develop general knowledge about the past of world as well as India for better understanding of the progress of the civilization in various parts of the globe.</p> <p>PSO4.to make the students competent for teaching and administrative works in future for serving the nation proper</p> <p>PSO5. To help students with application of statistics so that in future they can incorporate those into teaching-learning and research.</p>

Course Outcomes

B.A. Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	History of India upto c. A.D. 650	The students will be able to know the course of Indian History up to c. A.D. 650. In this connections they will have an idea of reconstructing ancient Indian History from source materials used by the Historians to make the picture of ancient India bright.
	Paper- II	History of India c. A.D. 650 - 1550	The students will be acquainted with the process of Indian History from c AD 650 -1550. In studying this paper the students definitely gather the idea of the glorious period of Indian History mainly on the early medieval and medieval period.
2 nd	Paper -III	History of India c. A.D. 1550- 1750	The students will acquire knowledge about the history of India during the Mughal period with special reference to social, political, economic and cultural history.
	Paper- IV	History of India c. A.D.1750- 1950	The students will get the knowledge about the history of India from the background of the battle of Plassey to the history of long struggle for Independence from the Colonial Rule.
3 rd	Paper –V	Rise of the Modern West (Mid15th century -18th century	The students will be able to get a notion about the growth of Modern Western Civilization from mid-15th century -18th century. In this paper social, political and intellectual history got special stress which definitely make the students benefited for their holistic development of knowledge.The paper highlights the growth of the Modern Western Civilization.
	Paper –VI	History of Modern Europe(1789- 1939AD)	The paper will equip the students with the knowledge on the history of Modern Europe from the French Revolution to the outbreak of the 2nd World War
	Paper –VII	History of China and Japan c. AD 1839-1949	The learners will achieve knowledge about the process of the history of China and Japan from 1839 to 1949.
	Paper –VIII	The Making of the Contemporary World	The paper will Acquaint the students with the knowledge of contemporary world history from 1945 to present days.

Course Outcomes

B.A. General

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	History of India from Pre-Historic Age to Post Mauryan Period	The students will be able to know the course of Indian History from earliest times to post--Mauryan period.
	Paper- II	History of India: Medieval Period 1200-1556AD.	The paper will grow knowledge among the students about the history of the Medieval Period 1200-1556AD, i.e. the Turko -Afghan period.
	Paper -III	History of India 1760-1857.	The students will get the knowledge about the history of India from the beginning of the colonial rule in India up to the great revolt of 1857.
2 nd	Paper- IV	From the Rising of the Gupta Empire to 1200AD	The students will be acquainted with the process of Indian History from 300AD to 1200AD. In studying this paper the students definitely develop the idea of the glorious period of Indian History.
	Paper –V	History of India: Later Medieval Period 1556-1761AD.	The students will acquire knowledge about the history of India during the Mughal rule from Akbar and upto the 1761AD, the beginning of the colonial rule in India with special reference to social, political, economic and cultural history.
	Paper –VI	History of India 1858-1950.	The students will get the knowledge about the history of India's struggle for Independence from the Colonial Rule from 1857 to 1947 and formation of independent India upto 1950.
3 rd	Paper - VII	Western World: Mid 15 th century to world War II	The students will be able to get a notion about the society and economy and polity of Western World from 15 th century upto the 2 nd World War.

Ananda Chandra College, Jalpaiguri

Department of Mathematics

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.Sc Honours	<p>On completion of the Programme, the students would be able to:</p> <p>PSO1. Recall basic facts about mathematics and acquire knowledge of mathematics helping him to develop mathematical mind.</p> <p>PSO2. Think analytically to apply his knowledge in several branches of sciences.</p> <p>PSO3. Going through the mathematical theorems rigorously, students should be able to develop the skill to solve different mathematical problems effectively.</p> <p>PSO4. It is expected that the knowledge and the skill acquired during this curriculum will translate them to a different sphere of mental health and they will easily cope up with higher studies.</p> <p>PSO5. Going through this course, students should be bold enough mentally to face any competitive examination in future.</p>
B.Sc General Course	<p>On completion of the Programme, the students would be able to:</p> <p>PSO1. Recall basic facts about mathematics and should be able to display knowledge of conventions such as notations, terminology.</p> <p>PSO2. Students should be apply their skills and knowledge to daily life problems.</p> <p>PSO3. Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.</p> <p>PSO4. It is expected that the knowledge and the skill acquired during this curriculum will translate them to a different sphere of mental health and they will easily cope up with higher studies.</p> <p>PSO5. Going through this course ,students should be bold enough mentally to face any competitive examination in future.</p>

Course Outcomes

B.Sc Honours

Year	Paper	Course Title	Outcomes
1st	Paper-I	Number Theory, Classical Algebra, Modern Algebra	<p>The specific outcome number theory is to discuss about the behaviors and some basic properties of integers. Linear congruence between different numbers are carefully discussed in this present section and the importance of various theorem and their application in number theory are described. This topical so executes about the Euler's theorem, Wilson's theorem, Fermat's theorem. Enable to study the existence of some basic properties of functions, existence of its inverse, composition of different functions, one-to-one correspondence and the cardinality of set.</p> <p>Students will be acquainted with new area of mathematics viz. Group Theory. They will learn about symmetries, various properties of groups and subgroups. Understand the properties of integers, gcd, lcm of numbers and also the congruence relationship between integers.</p>

	Paper-II	Linear Algebra, Vector Algebra, Mathematical Logic	<p>Determinant and Matrix and their basic properties are introduced here which are very important in several branches of science.</p> <p>Students will learn the basic concept of vector, Scalar product, vector product, collinearity of three points, coplanarity of four points. Then they apply these concepts in geometrical and trigonometrical problem which will help to study about any physical object</p> <p>Learn to find Eigen values and eigen functions of a matrix which is used in the study of vibrations, chemical reactions and geometry. Also study Cayley Hamilton Theorem.</p> <p>Row reduced form and row reduced echelon form of a matrix will help to find the rank of a matrix, rank of a null space, row space and column space of a matrix. Congruence will help to find the normal form of a square matrix and find the signature and index of a matrix.</p>
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	Paper-III	Real Analysis, Calculus of Single Variable, Calculus of Several Variables-I	<p>Understand many properties of the real line \mathbb{R} and learn to define sequence in terms of functions from \mathbb{R} to a subset of \mathbb{R}. Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior and limit of a bounded sequence. Enable the students to assimilate the notions of limit of a sequence and convergence of a series of real numbers. Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.</p> <p>Understand the notions of continuity, uniform continuity, differentiability of a function of a single variable. Understand the consequence of various mean value theorems for differentiable functions and study L'Hospital's rule.</p> <p>Also functions are defined in 'n' dimensional space. The existence of limit, continuity, differentiation are discussed in detail. This topic provides the concept of partial derivatives which is the most applicable topic in the field of Applied Mathematics.</p>

	Paper-IV	Analytical Geometry of 2 Dimensions, Integral Calculus-I, Differential Equations-I	<p>Understand the concept of two dimensions, Straight lines, Pair of straight lines, Conic sections and also polar equations of conics. Some basic concepts and simple problems on definite integrals. Also some knowledge about Beta and Gamma Functions.</p> <p>Many real world practical problems can be converted into differential Equation. So it is one of the most important section in the context of Applied Mathematics. The specific outcomes are to know about the existence and uniqueness of solution, Particular integral, Complementary function etc. Also In this topic several practical problems are formed by the Differential Equation and solved.</p>
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2nd	Paper-V	Real Analysis-II, Calculus of Several Variables-II, Application of calculus	<p>Some deeper properties of infinite series of Real numbers are introduced here.</p> <p>Advance level of limit, continuity and differentiability of function of single and several variables. Also knowledge about maxima and minima of a function.</p> <p>Then know about application of differential calculus such as tangent, normal, curvature, envelope, concavity, asymptotes etc. and application of integral calculus such as area enclosed by a curve, volume and surface area of solid of revolution, determination of centre of gravity, moments of inertia etc.</p>
	Paper - VI	Integral Calculus-II and Dynamics of a Particle.	<p>To learn Riemann Integral and its properties in detail, leading to fundamental theorem of calculus and Mean value theorem.</p> <p>In Dynamics part students will be enriched with the knowledge of motion of a particle in straight line and in a plane without any resistance and in a resisting medium. They also know about central force and central orbit, planetary motion , motion of a particle of varying mass etc..</p>

	Paper-VII	Linear Algebra II and Vector analysis:	<p>Here the students can extend their idea about group theory. Here they know about cyclic group, Permutation etc. Students will be acquainted with Ring theory, concepts of integral domain, fields and ideals which will help them to move for higher mathematics.</p> <p>Inner product spaces and the concept of minimal solution to a system of linear equations will be very attractive to students as they will learn the concept of generalized inverse of a matrix. While going through orthogonal projection and spectral theorem, students will surely get struck. In a nutshell, this curriculum will transform the students to a higher dimension of mathematical ability.</p> <p>Students will learn the concept of Linear Transformation which will help them to define a linear mapping from a vector space to another vector space.</p>

			<p>Students will learn the concept of vector products like triple product and four vector product. They will know what is vector functions, learn about the concept of limit, continuity, differentiability and integration of a vector valued functions. It will help to study about any physical object and its orientation in space(3-D).</p>
	Paper-VIII	Analytical Geometry of 3 D, Differential Equation-II	<p>Here the students extend their idea of geometry in three dimensions with plane, straight line in space, Sphere, Cone, Cylinder. Also they can have knowledge about Ellipsoid, Hyperboloid etc.</p> <p>Many real world practical problems can be converted into differential Equation. So it is one of the most important section in the context of Applied Mathematics and Physics. The specific outcomes are to know about the existence and uniqueness of solution, Particular integral, Complementary function etc. Also in this topic know about method of variation of parameters, simple eigen value problems. Several practical problems are formed by the Differential Equation and solved.</p> <p>The most important topic in the field of Applied Mathematics is the Partial Differential Equation. Many physical, chemical and biological problems can be formed by using partial differential equation. In this topic students would gather knowledge about the formation and solution of partial differential equation.</p> <p>Then students know about application of Laplace Transform to ordinary differential equations and also power series solutions of differential equations.</p>

3rd	Paper-IX	Linear Programming and optimization, Tensor Algebra and Analysis	Linear programming and optimization play a very important role not only in Mathematics, but also in several branches of science, Economics, Business and Industries. In this sections students learn about formulation of LPP and solution using various methods. Also know about transportation, Assignment problem and Travelling salesman problem. Then students get some idea about tensor, different types of tensors, laws of transformations.
	Paper-X	Real Analysis-III, Integral Calculus-III	In this paper students will be read more about real analysis. Point wise convergence, Uniform convergence, several theorems related to these topics are learnt. They are also taught power series and extremum of functions of two and three variables. Then they know about improper integral, Test of convergence of improper integrals, multiple integrals, and also have some knowledge about Fourier Series.
	Paper-XI	Metric Space, Complex Analysis, Modern Algebra-III	Enable to get some basic idea about metric space, open and closed sets in metric space, completeness properties of metric spaces and realize Real Number as a complete ordered field. Understand the significance of differentiability and analyticity of complex functions. Also know about bilinear transformation. The idea of normal subgroup of a group, Homomorphism and Isomorphism of a Group introduced in this section

	Paper-XII	Theory of Probability and Rigid Dynamics	<p>Understand the notion of probability mass functions, various types of distributions and their applications to real life problems.</p> <p>Learn about expectations, covariance and linear regression.</p> <p>In this section students know about equation of motion of Rigid Body, momental ellipsoid, Equipomental system, D'Alembert.s principle, Conservation of linear and angular momentum, Compound pendulum etc.</p>
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	Paper-XIII	Theory of Statistics and Analytical Statics	<p>Understand the role of statistics as applied science and its utility in predicting phenomenon and pattern. Then know about some elementary concept of Statics Such as centre of gravity, Astatic equilibrium, virtual work, stable and unstable equilibrium. Also know about forces in three dimension and several concept related to it.</p>
	Paper-XIV	Classical Mechanics, Discrete Mathematics and Boolean Algebra, Graph Theory	<p>In this section Several concepts like conservation of momentum and energy are introduced. Then study Newtonian mechanics.</p> <p>Know about Boolean algebra, switching circuit, Karnaugh map, generating function, recurrence relation etc.</p> <p>Graph theory is an important tool for mathematical modelling.</p> <p>Students will study different types of graphs, operations on graphs, tree, path, circuit in details and algorithms to find special spanning trees.</p> <p>Learn the concept of Adjacency matrix, Incidence matrix and the relation between the matrices and the graphs. They will also learn about hamiltonian circuit, Eulerian circuit, weighted graph.</p> <p>They will learn to solve travelling salesman problems using graph.</p>
	Paper-XV	Numerical Analysis, Computer Science and Programming	<p>This course will enable the students to obtain numerical solutions of algebraic and transcendental equations, numerical solutions of system of linear equations and check the accuracy of the solutions.</p> <p>Learn about various interpolating methods and solve initial and boundary value problems to differential equations using numerical methods</p> <p>Learn about several numerical differentiation and integration techniques and understand C programming and its utility in writing numerical programmes.</p> <p>Also have some basic knowledge about computer fundamentals such as computer generation, operating system, hardware, software, programming language etc.</p>

	Paper-XVI	Numerical methods (Practical)	In lab the students learn to use Scientific calculator and computer. They solve nonlinear equations, systems of linear equations, approximate the value of a function at some point by interpolation method, calculate numerical integration using both scientific calculator and computer using c Programming
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Couse Outcomes

B.Sc General

1st year	Paper -I	Classical Algebra, Modern Algebra and Linear Algebra	<p>Familiar with properties of polynomials ,Descarte's rule of signs. Understand the concept of symmetric functions.</p> <p>Basic concepts about complex numbers, De-Moivre's theorem and application.</p> <p>Then know about determinant and Matrix and their basic properties.</p> <p>Set is a very important concept. The students know about set, Group, Ring, Field, Vector space, linear dependence and linear independence of vectors.</p>
	Paper -II	Analytical Geometry of two and three dimensions, Vector algebra	<p>Understand the concept of two and three dimensions and transient behaviors of some known curves and surfaces such as straight line, plane, spheres, conicoid.</p> <p>Students will learn the concept of collinear and coplanar vectors, scalar and vector products. Vector equations of plane and straight lines and some applications to problems in geometry,</p>
	Paper-III	Differential Calculus, Complex Analysis	<p>Understand many properties of the real line \mathbb{R} and learn to define sequence in terms of functions from \mathbb{R} to a subset of \mathbb{R}. Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and limit of a bounded sequence. Enable the students to assimilate the notions of limit of a sequence and convergence of a series of real numbers. Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers. Understand the notions of continuity, differentiability of order 1 and successive differentiation, Mean value theorems and their applications.</p> <p>Also, the students have to know about function of two variables, their limit, continuity and derivability and their related theorems.</p>

	Paper -IV	Integral Calculus, Ordinary Differential Equations	Students will be able to solve first order differential equations using several methods and also second order linear differential equations. The students know about improper integral, some test of convergence and use of Beta and Gamma function. Also, they acquire some knowledge about double integral.
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	Paper-V	Numerical Analysis, Linear Programming and optimization	<p>This course will enable the students to obtain numerical solutions of algebraic and transcendental equations, Learn about various interpolating methods using numerical methods Learn about several numerical integration techniques.</p> <p>Linear programming and optimization play a very important role not in Mathematics, but also several branches of science, Economics, Business and Industries. In this section students learn about Formulation of LPP and solution using various methods. Also know about transportation, Assignment problem.</p>
	Paper-VI	Analytical Dynamics, Probability and Statistics	<p>In Dynamics part students will be enriched with the knowledge about Motion of a particle in Straight line and in a plane without any resistance and in a resisting medium. They also know about central force and central orbit etc.</p> <p>Understand the notion of probability mass functions, various types of distributions and their applications to real life problems. Learn about expectations, covariance and linear regression, Understand the role of statistics as applied science and its utility in predicting phenomenon and pattern.</p>
	Paper-VII(A)	Computer science and programming, A course of calculus, Discrete mathematics	<p>Understand C programming and its utility in writing numerical programmes. Also have some basic knowledge about computer fundamentals such as computer generation, operating system, hardware, software, programming language etc.</p> <p>They learn power series and have some knowledge about Fourier Series, Laplace transform and its application in ODE.</p> <p>Know about Boolean algebra, truth table, DNF and CNF.</p> <p>Linear congruence between different numbers are carefully discussed in this present section and the importance of</p>

	Paper-VII(B)	Numerical Methods (Practical)	In lab the students learn to use Scientific calculator and computer. They solve nonlinear equations, calculate numerical integration using both scientific calculator and computer using c Programming
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ANANDA CHANDRA COLLEGE
DEPARTMENT OF PHILOSOPHY
PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

PROGRAMME SPECIFIC OUTCOMES:

PSO1- The study of Philosophy in general develops the faculty of understanding of the students. The study of Logic enriches one's thinking skill and sharpens one's analytical abilities. It equips students to grasp the different issues discussed in mathematics, computer science etc.

PSO2- The study of Psychology gives the opportunity for the students to learn about brain states, different personality traits, the sub-conscious and conscious reasons for human.

PSO3- The study of Ethics helps a student to gain the ability so that they can make themselves to become a proper social being. The Honours course enables the students to develop an insight into the intricacies of the subject and prepare them for more advanced courses on subject in the University of Calcutta as well as in the other universities both national and international. It also develops in them to think logically and essentially which is absolutely essential in realizing the principles and theories of Philosophy.

PSO4- Develops the ability to think logically, to analyze and solve problems, to assess proposed solutions, to write and speak clearly, attending to details.

PSO5- Brings the important questions to the table and works towards an answer. It encourages us to think critically about the world; it is the foundation of all knowledge and when utilized properly, can provide us with huge benefits.

PSO6- Enhances in a way no other activity does, one's problem-solving capacities, contributes uniquely to the development of expressive and communicative powers, persuasive powers, writing skills

PSO 7- Moral Philosophy involves systematizing, defending and recommending concepts of right and wrong behavior.

PSO8- It's the most practical by far because it teaches to think critically and evaluate arguments and truth claims.

PSO9- Improves reasoning and critical skills, teaches how to ask good questions from the worthless questions.

COURSE OUTCOMES :

CO1- The study of Philosophy helps the students to get acquainted with different schools of Indian philosophy like Cārvāka, Jainism and Buddhism as Nāstika schools on one aspect, Sāṅkhya, Yoga, Nyāya, Vaiśeṣika, Mimāṃsā and Vedānta as Āstika school, on the other hand.

CO2- They learn both Psychology and Social and Political philosophy. In the part of Psychology students become aware of different theories like Interactionism, Philosophical behaviourism, Person theory along with different methods of Psychology, nature and relation of sensation and perception. They become acquainted with theories of learning, different levels of mind, Freud's theory of dream. They also learn different tests of Intelligence regarding I.Q. measurement.

CO3- In the part of Social and Political philosophy students of philosophy learn about the nature of social and political philosophy and their relation. They also study the basic concepts of society, nature and role of family in society, different theories regarding the relation between individual and society. They also learn about secularism, nature and progress of Social changes, different theories of social changes, and discussion about different political ideals.

CO4- Students get acquainted with the epistemological and metaphysical theories of the western philosophers like Socrates, Plato, Descartes, Spinoza, Leibnitz , Locke, Berkeley Hume and Kant.

CO5- By studying Logic, students get acquainted with the use of logical rules for identifying a valid argument. Along with these, they also learn existential import, symbolic interpretation, constructing formal proof of validity, proving invalidity, Quantification theory. Study of this paper helps them to be aware of Mill's different experimental methods, Science and Hypothesis and also different theories of probability.

Paper Wise Outcomes ; Honours Course (1+1+1) System :

The B.A Philosophy Honours course of (1+1+1) system provides a multidimensional syllabus for the students, which brings certain positive outcomes into their life. The paper wise outcomes of the (1+1+1) system can be narrated in the following way.

PART-I

The first year of the B.A Philosophy Honours course of 1+1+1 system contain two paper (Paper-I & Paper-II).

Paper - I (Indian Philosophy): The paper one is concerned about the great Indian Philosophical School, both the theistic and atheistic schools. This paper provides a wide overview on philosophical issues of ancient and medieval India. Such study also helps the students to have an understanding about the meaning of life and reality.

Paper – II (Ethics and Western Logic): Paper two is concerned about the ethics and Logic. The Study of ethics makes students aware about the meaning and purpose ethical principles which ultimately helps students to live a sound life. The paper two also provides a comprehensive idea about the basic notion of propositional logic. The study of logic helps students to enhance their logical understanding.

PART-II

The second year B.A Honours syllabus provides two papers (Paper-III & Paper-IV).

Paper - III (Western Philosophy): The paper three is concerned about Western Philosophy. In that paper students obtain a wide understanding about the philosophical idea of certain Greek Philosophers like Socratic, Plato and Aristotle and some Western Philosophers like Locke, Berkley, Hume, Descartes, Spinoza, Leibnitz and Kant. Such study helps the students to acquire an understanding about the meaning of life and reality.

Paper-IV (Western Logic part-ii & Philosophy of Religion): The paper four contains some advance notions of western logic like quantification logic, which helps students to become aware the developments into the field of logic. The paper four also contains some philosophical understanding about nature of religion. The understanding about the nature of religion makes students able to understand the role of religion in human life.

PART-III

The third year B.A Honours syllabus provides four papers (Paper-V, VI, VII, VIII) among which there is a special/ optional paper.

Paper-V (Tarkasamgraha): Fifth paper is concerned about one of the most fundamental text of Nyaya Philosophy namely, Tarkasamgrah. The study of Tarkasamgrah makes students aware about some certain epistemological concern of Nyaya Philosophy.

Paper VI- (Analytic Philosophy): The paper six of the 3rd year B.A Philosophy Honours course actually concerned with certain analytic philosophical understanding of J. Hospers. The study his book namely An Introduction to Philosophical Analysis helps students to become aware about certain analytical concepts of language. It also helps students to analyse certain metaphysical concepts like causality.

Paper-VII (Social & Political Philosophy): Paper seven is concerned about the certain social and political concepts like Society, Community, Democracy, Equality etc. The study of this paper makes students aware about the social and political relationship, notion, ideas etc.

Paper-VIII (Optional Paper): Paper eight is an optional paper. The 3rd year B.A Philosophy Honours course provides some papers like Phenomenology, Problems of mind etc. All this optional papers are comprehensive and thought provoking. The study of this optional paper enhances the intellectual capacity of the students.

Paper Wise Outcomes ; General Course (1+1+1) System :

PART-I

Paper-I Indian Philosophy: The paper one is concerned about the very fundamental concepts of some Atheistic Indian Philosophical Schools namely Charvaka, Jaina and Buddhism. This paper provides a wide overview on Philosophical issues of ancient Atheistic schools. Such study helps the students to get acquainted with the certain argumentative traditions.

Paper-II Western Philosophy: This paper is concerned with the certain western epistemological and metaphysical issues. This paper helps students to have a proper idea concerning the western conception about the sources knowledge, nature of knowledge.

Paper-III Psychology: This paper is concerned about certain theories and conceptions of Psychology. The successful study of this paper makes students able to understand certain psychological concepts like, interception, perception etc.

PART-II

Paper-IV Indian Philosophy:The paper four is concerned about the very fundamental concepts of some Theistic Indian Philosophical Schools namely Nyaya, Vaishesika, Yoga etc. This paper provides a wide overview on Philosophical issues of ancient theistic schools.

Paper-V Western Logic: This paper is concerned with western logic. This paper provides a comprehensive idea about the basic notion of propositional logic. The study of logic helps students to enhance their logical understanding.

Paper-VI Social and Political Philosophy: this Paper is concerned about the certain social and political concepts like Society, Community, Democracy, Equality etc. The study of this paper makes students aware about the social and political relationship, notion, ideas etc.

PART-III

Paper VII Ethics: Paper Seventh is concerned with basic notion of Western and Indian ethical issues like moral and non-moral actions, Niskama Karma etc. the study of such ethical concepts makes students able to have a systematic understanding of ethics.

Ananda Chandra College, Jalpaiguri

Department of Physics

Programme Specific Outcomes (PSOs)

Programme offered by the Department	Outcomes
B. Sc Honours	<p>On completion of the Programme, the students would be able to:</p> <p>PSO1: Gain clear understanding and core knowledge in Physics, including premises of Classical Mechanics, Electromagnetic Theory, Quantum Mechanics, Statistical Mechanics etc.</p> <p>PSO2: Develop mathematical expertise required to solve problems and apply analytical methods to interpret and analyse results and thereby draw conclusions.</p> <p>PSO3: Gain expertise in handling scientific instruments and performing various experiments.</p> <p>PSO4: Develop scientific thinking and research mindedness. The student shall be competent enough to employ his/her scientific understandings, mathematical skills and computer knowledge to excel in various fields of research.</p> <p>PSO5: The student shall be prepared for excelling in the entry examinations of various Universities, or competitive exams like JAM, JEST etc for pursuing their future studies.</p> <p>PSO6: Develop love for Physics, recognise the impact of science and also get acquainted with the recent advancements in the field of Physics.</p> <p>PSO7: Develop confidence and overall improvement in personality required for a successful life.</p>
B. Sc General	<p>On completion of the Programme, the students would be able to:</p> <p>PSO1: Gain a comprehensive idea about the Subject.</p> <p>PSO2. Handle scientific instruments with ease and be able to confidently perform laboratory experiments.</p> <p>PSO3. Develop logical thinking and scientific mindedness which will not only help them in research, but will also prepare them for pursuing various other jobs in future.</p> <p>PSO4. Develop confidence and overall improvement in personality required for a successful life.</p>

Course Outcomes

B.Sc Honours Course

Year	Paper	Course Title	Outcomes
I	1	Group-A: Mathematical Physics	Gain detailed knowledge of vector calculus, differential equations, Fourier series, matrices, probability theory and to apply them in understanding and analysing physical phenomena.
		Group-B: Classical Mechanics-I	Develop clear idea about motion of bodies under the action of various forces, i.e- the relationship between force, motion and matter.
		Group-C: General Properties of Matter	Gain the idea about the general properties of matter like elasticity, surface tension and viscosity and some sort of numerical problems on them
	2	Group-A: Heat	Develop fundamental understanding of kinetic theory of gases, transport phenomena, transport of heat.
		Group-B: Sound	Understand the physics of waves and develop understanding propagation of sound.
		Group-C: Electricity-I	Grow basic concepts of electrostatic phenomenon, dipoles, interactions, capacitors and stationary currents.
	3	Practical	Experiments on properties of matter and thermal physics
II	4	Group-A: Geometrical Optics	Fundamentals about the propagation of light through media. Get idea about basic structure of various optical instrument and usefulness of them.
		Group-B: Physical Optics-I	Understand the physics of waves and develop basic understanding of wave phenomena like interference, diffraction, polarisation.
		Group-C: Electronics-I	Basic concepts about energy sources and networks. Principles of semiconductor devices like diode and BJT. Understanding logic circuits.
	5	Group-A: Thermodynamics	Develop fundamental concepts of thermodynamics, First law, Second law, thermodynamic potentials, Heat engines, Change of states, Chemical thermodynamics etc diffraction, polarisation.
		Group-B: Electricity-II	Grow concept about electromagnetism, electromagnetic induction and

			magnetic field in material media. Understanding transient current, alternating current, thermoelectricity and their application.
	6	Practical	Experiments on electricity and magnetism.
III	7	Group-A: Classical Mechanics-II & Fluid Mechanics	Fundamental concept about constraints of motion, principle of virtual work, Lagrangian-Hamiltonian formulation, variational calculus, conservation theorems, coupled small oscillations and their applications on various areas of physics. Basic concepts about fluid flow, equation of continuity of fluid, Euler's equation of motion, Bernoulli's theorem and related applications.
		Group-B: Statistical Mechanics	Grow concepts about statistics and thermodynamics, equilibria, ensemble theory. Be able to differentiate between different ensemble theories, develop clear understanding of the classical and quantum theory of matter and radiation. And be able to explain the statistical behaviour of ideal Bose and Fermi particles.
		Group-C: Electronics-II	Get to know about FET, BJT, amplifiers, oscillators, power supply, OPAMP and their application. Basic idea about combinational logic And communication Principles, CRO, Microprocesser.
	8	Group-A: Physical Optics-II	Get basic idea about polarisation, LASER & MASER, fibre optics and their applications
		Group-B: Electromagnetic Theory	Understanding Maxwell's field equations and their nature, Poynting theorem, Electromagnetic waves in different media, dispersion ad scattering.
		Group-C: Special Theory of Relativity	Develop the fundamental idea about relativity, Lorentz transformation, relativistic effects, proper time, Minkowski space, light cone and four vectors.
		Group-D: Solid State Physics	Develop fundamental insight about solid state physics thereby understanding the structure of solids, bond types, electrical properties, magnetic properties and various

		mechanical properties of matter at the very intrinsic level.
9	Group-A: Atomic Physics	Basic idea about atomic structure, atomic spectra, X-rays and various related phenomena.
	Group-B: Quantum Mechanics	Understanding the necessity of quantum mechanics, wave-particle duality, Schrodinger's equation, quantum mechanical operators, dynamical observables, uncertainty principle, measurements and their applications.
	Group-C: Nuclear and Elementary Particle Physics	Develop ideas about the properties of nuclei, nuclear structure, nuclear decay, radioactivity, nuclear reactions, nuclear fission/fusion, elementary particles, cosmic rays, accelerators and detectors.
10	Practical	Experiments on optics.
11	Practical	Experiments on electronics

Course Outcomes

B.Sc General Course

Year	Paper	Course Title	Outcomes	
I	1	Group-A: Mechanics & oscillations	Gain deep understanding about the motion and configuration of objects, from the study of vectors, laws of motion, momentum, energy, rotational motion, gravitation, elasticity, etc. Understanding the physics of oscillations.	
		Group-B: General Properties of Matter	Gain the idea about the general properties of matter like elasticity, surface tension and viscosity and some sort of numerical problems on them	
		Group-C: Waves & Acoustics	Understand the physics of waves and develop understanding propagation of sound.	
	2	Group-A: Heat & Thermodynamics	Develop fundamental understanding of how systems in thermal equilibrium can be described by thermodynamics, kinetical gas theory and basic statistical mechanics.	
		Group-B: Optics	Fundamentals about the light propagation and optical instruments. Get idea about wave nature of light and understanding of wave phenomena like interference, diffraction, polarisation.	
		Group-C: Magnetism	Gain idea about magnetic field, potentials, magnetic dipole, magnetic properties of materials.	
	3	Practical	Experiments on mechanics and oscillations	
	II	4	Group-A: Electrostatics	Grow basic concepts of electrostatic phenomenon, dipole interactions, image problems, capacitor, dielectrics.
			Group-B: Current Electricity	Grow concept about electromagnetism, electromagnetic induction. Understanding transient current, alternating current, thermoelectricity and their application.
Group-C: Electronics-I			Understanding basic concepts of semiconductor devices, diodes, rectifiers, BJT, amplifiers, digital electronics.	
5		Group-A: Special Theory of Relativity	Develop the fundamental idea about Relativity, Lorentz transformation, relativistic effects.	
		Group-B: Atomic and Nuclear Physics	Develop an idea about the concepts and methods of atomic and nuclear physics thereby gaining insight into the physics of atoms and subatomic particles.	
		Group-C: Solid State Physics	Develop fundamental insight about solid state physics thereby understanding the structure,	

		and Elementary Quantum Mechanics	bond types and various mechanical properties of solid matter at the very intrinsic level. Get idea about basic quantum mechanics ,wave nature of a particle, uncertainty principle ,wave equation of a system and application
	6	Practical	Experiments on electricity and magnetism
III	7	Group-A: Electronics-II	Get to know about feedback, amplifiers, oscillators, OPAMP and their application. Basic idea about combinational logic, registers, counters, and CRO.
		Group-B: Machine and Energy Sources	Gain knowledge about Heat Engines, pumps, and various energy sources.
		Group-C: Communications and Computers	Get idea about electromagnetic waves, transmission of waves. Basic idea about computers and programming in C language.
	8	Practical	Experiments on optics and electronics

Ananda Chandra College, Jalpaiguri
Department of Physiology

B.Sc Honours

Programme Specific Outcome:

The undergraduate Honours syllabus in Physiology under the University of North Bengal is so versatile that a student, graduated with Honours in Physiology may find himself / herself suitable in most of the fields of Biological Sciences. Perhaps the Undergraduate Board of Studies in Physiology do not want to lose the essence of the age old subject in the recent days of modernization. Thus, the syllabus is designed in such a way that a student reads old experimental approaches viz. localization of motor cortex, respiratory center in one semester along with cutting edge techniques viz. polymerase chain reaction, western blot etc. in other semesters. The undergraduate Honours syllabus in Physiology represents the finest example of the combination of old and new knowledge. The undergraduate Honours programme specific outcomes are discussed below:

On successful completion of Undergraduate Honours Course in Physiology or B.Sc. Honours in Physiology (3 years), a student –

PSO.1: Should have gained knowledge in Physiology through theory and practical classes.

PSO.2: Should have gained hands on training on biochemical experiments.

PSO.3: Should have learnt the basic principles of advance analytical methods.

PSO.4: Should have developed research oriented skills.

PSO.5: Should have received training to finish assignments within time.

PSO.6: Should have gained knowledge on data collection, statistical analyses and data interpretation.

PSO.7: Should be able to nurture the zeal to serve the society.

PSO.8: Should have gained sufficient knowledge to serve in the government organizations such as Defense Research and Development Organisation (DRDO), All India Institute of Medical Sciences (AIIMS), National Institute of Science Education and Research (NISER), Indian Institute of Technology (IITs), National Institute of Technology (NIT), Sports Authority of India (SAI) and various other institutes of academic excellence in the capacity of Scientist, Research Associate, Research Assistant, Project staff etc. The students have similar opportunities in the private sectors such as R & D sections, research and analysis wings of Pharmaceutical companies, sales and marketing of pharmaceutical products, nutritional supplements, prosthetics etc. The graduate students of Physiology have an edge over other Biological Sciences or Life Science graduates, if they proceed for professions like Sports Physiologist, ECG or EEG technician, Physiotherapist, Medical

Imaging laboratory technician, Operation Theater technician, Assistant in Neurophysiology Laboratory, Optometrist, Audiology and Speech therapist etc. which are essentials in hospitals, diagnostic labs and other health sectors.

B.Sc. General

Programme Specific Outcome:

The Undergraduate General Syllabus in Physiology under the University of Calcutta is sodesigned that it can complement other subjects to enrich the knowledge of a student pursuing B.Sc. General (3years) course. The course is flexible and allows students to learn theoretically and also to achieve some practical skills. The student should be able to utilize the knowledge which would help them to establish themselves in future. The programme specific outcomes are outlined below:

On successful completion of Undergraduate General Course in Physiology or B.Sc. General in Physiology (3 years), a student –

PSO.1: Should be able to gain knowledge on structure and function of different parts of human body.

PSO.2: Should have developed understanding to detect early signs of any abnormality which arises due to a pathology in the human body.

PSO.3: Should have gained sufficient knowledge to serve in the government or private sector such as diagnostic laboratories, hospitals, forensic laboratories under Ministry of Health and pharmaceutical companies, research & development sectors, sales & marketing department in the privates sectors for employability.

Ananda Chandra College, Jalpaiguri

Department of Sociology

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.A.Honours	<p>PSO1. Students are introduced about the discipline and basic concepts of sociology like social structure, institutions, groups, culture, social change and processes.</p> <p>PSO2. Students are able to understand the basic concepts about rural and urban society, rural and urban community, economy, way of life and their problems.</p> <p>PSO3. Students are able to gather knowledge about roots of Indian civilization and diverse socio-economic and cultural reality.</p> <p>PSO4. Students are familiarized about the contributions of classical and modern sociological thinkers, their valuable theories and social thoughts in sociology.</p> <p>PSO5. It provides the students with some basic knowledge about sociological research methodologies and research based project work.</p>
B.A. General	<p>PSO1. It provides an outline of basic concepts and processes of Indian society and give a view to the Indian social reality through sociological lens.</p> <p>PSO2. Students are able to understand about social problems, causes and their solutions.</p> <p>PSO3. Students are able to understand ethnic culture, customs, norms, values and traditions.</p> <p>PSO4. Students are able to understand the social institutions like caste, class, power, family and marriage.</p> <p>PSO5. Students are able to understand the sociological theory and thoughts of Comte, Durkheim, Weber and Marx.</p>

Course Outcomes

B.A. Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	Introduction to Sociology	Students are introduced the basic concept of sociology.
	Paper- II	Rural Sociology in India	Students are able to understand rural society and rural social problems.
2 nd	Paper -III	Indian Society and Culture in India	Students are familiarized about evolutionary process of Indian civilization, society and culture.
	Paper- IV	Sociological Theory	It provides the students knowledge about sociological theories and social thoughts.
3 rd	Paper –V	Sociology of Tribes, Minorities and other Weaker Sections	Students are able to understand the profile of Tribal people, minorities and weaker sections.
	Paper –VI	Urban and Industrial society in India	Students are able to understand urban and Industrial social organization, economy and their impact on rural society.
	Paper –VII	Social Demography and Social Problems in India	Students are able to understand the population dynamics, composition of population and existing social problems.
	Paper –VIII	Research Methods	Student are introduced various methods and uses in sociological research.

Course Outcomes

B.A. General

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	A : Introduction to Sociology	This paper helps the student to get a picture about sociology and Sociological ideas of everyday life.
	Paper- II	A : Indian Society: Structure and Change	Students are introduced through this paper about the socio-economic situation of rural society from pre-British era to modern era.
	Paper -III	A : Indian Social Issues and Problem	Students are able to understand the emerging social issues and problems in Indian society.
2 nd	Paper- IV	B : Introduction to Sociology	Students are able to know about basic institutions of society in this paper.
	Paper –V	B : Indian society : Structure and Change	This paper offers the students to enrich their knowledge about different tribal communities, different factors of social change, Basic concepts of social & political institutions .
	Paper –VI	B : Social Research Methods	Through this paper, students learn the various technical methods of handling research paper.
3 rd	Paper - VII	Sociological Theory	Through this paper, students know the different thoughts expressed by famous sociological thinkers.

Ananda Chandra College, Jalpaiguri

Department of Zoology

Programme Specific Outcomes

Programme offered by the Department	Outcomes
B.Sc.Honours	<p>PSO1. Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms</p> <p>PSO2. Students learn objective reasoning.</p> <p>PSO3. Prepare and motivate students for further studies in Zoology and related fields.</p> <p>PSO4. Provide knowledge of a wide range of Zoological techniques and application of tools in related fields.</p> <p>PSO5. Provide knowledge on topics in latest developments in the fields of Animal Sciences, empowering the students to pursue higher degrees</p> <p>PO6. Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species</p> <p>PO7. Gain knowledge of Agro based Small Scale industries like sericulture, fish farming and apiculture</p> <p>PO8. Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties</p> <p>PO9 .Apply the knowledge and understanding of Zoology to one's own life and work</p> <p>P10. Students will gain practical laboratory skills from experiments and practicals</p> <p>P11. Field trips,excursions to National Parks,Sanctuaries to give them a practical understanding of Animals in nature.</p>
B.Sc. General	<p>PSO1 Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms</p> <p>PSO2 Students learn objective reasoning skills.</p> <p>PSO3 To Prepare and motivate students for further studies in biological sciences.</p> <p>PSO4 Provide knowledge of a wide range of Zoological techniques and application of tools in related fields.</p> <p>PSO5 Provide knowledge on topics in latest developments in the fields of Animal Sciences.</p> <p>PO6 Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species</p> <p>PO7 Gain knowledge of Small-Scale industries like sericulture, fish farming and apiculture.</p> <p>PO8 - Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties</p>

	<p>PO9 – Apply the knowledge and understanding of Zoology to one’s own life and work</p> <p>P10 Students will gain practical laboratory skills from experiments and practicals</p>
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Course Outcomes

B.Sc Honours

Year	Paper/Course	Course Title	Outcomes
1 st	Paper -I	Animal Diversity1, Systematics and Origin of Life	<p>CO1: The student will be able to understand classify and identify the diversity of animals.</p> <p>CO2: The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.</p> <p>CO4: The student will be able to understand the morphology, habit and habitat. Systematic position and various systems</p> <p>CO5: The student will be able to understand classify and identify the diversity of animals.</p> <p>CO6: The student will understand origin of life</p>
	Paper- II	Animal Diversity: Chordates, Adaptation, Zoogeography	<p>CO1: Students will understand the classification, structure, function and biology of chordates of different taxonomic classes.</p> <p>CO2: Students will also learn some special topics like zoogeography and their importance in adaptation</p> <p>CO3: Specific topics like metamorphosis in Amphibia, snake bites, migration of birds, parental care of amphibian, dentition of mammals</p> <p>CO4: The student will gain knowledge of general characteristics and classification of different classes of vertebrates</p>
	Paper -III	Practicals	<p>CO1: The student will gain knowledge to identify various animals based on morphological features.</p> <p>CO2: Prepare the culture of Paramecium</p> <p>CO3: Understand the principle and use of microscopes and micrometry.</p> <p>CO4: List the various invertebrate and vertebrate animals in a given class.</p> <p>CO5: Identify various larval stages and development in invertebrate and vertebrate groups.</p> <p>CO6: Mounting of slides</p>
2 nd	Paper –IV	Cell Biology, Molecular Biology,	<p>CO1: The learner will understand the importance of cell as a structural and functional unit of life.</p>

	Laboratory Techniques and Biochemistry	<p>CO2: The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.</p> <p>CO3: The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.</p> <p>CO4: The cellular mechanisms and its functioning. Will be able to explain DNA structure.</p> <p>CO5: The student will learn to paraphrase the Central dogma of molecular biology.</p> <p>CO6: Illustrate the mechanism of replication, transcription and translation.</p> <p>CO7: Justify the post transcriptional and post translational modifications. The student will be able to explain the structure, functions and reactions of the various biomolecules.</p> <p>CO8: Correlate the changes in the levels of these biomolecules with the diseases in human</p> <p>CO9: Attained the knowledge of macromolecule such as carbohydrates, protein and fat, their types and significance.</p> <p>CO10: Student will be able to described the enzymes, mechanism of enzyme action and factors affecting the enzyme activity</p>
Paper –V	Genetics, Immunology, Animal Physiology, Endocrinology and Reproductive biology	<p>CO1: Students will learn the fundamental genetics like Mendelian and Non Mendelian inheritances, linkages, mutations, sex determination of various animals, extrachromosomal inheritances, transposable genetic elements etc.</p> <p>CO2: Students will develop knowledge about structures and function of immune cells, immunoglobulins, antigens and their interactions with antibodies. They will know about MHC molecules, cytokines, hypersensitivity reactions and cellular mode of immunity development.</p> <p>CO3: Students will know the physiology of digestion, respiration, circulation, excretion and adaptation.</p> <p>CO4: They will learn details of endocrinology with classification of hormones, their biosynthesis, receptors, mode of molecular actions, physiological function, feedback controls and related disorders.</p> <p>CO5: The students will understand the various processes related to reproduction.</p>
Paper –VI	Practical	CO1: Students will learn the use of Camera lucida

			CO2: Cell Culture techniques CO3: Students will learn the techniques of histology.
	Paper –VII	Practical	CO1: Students will learn the preparation of meiosis slides of grasshopper testis CO2: Pedigree analysis CO3: Barr body experiment CO4: ABO blood grouping CO5: TC of RBC and WBC CO6: Blood pressure measurement

Year	Paper/Course	Course Title	Outcomes
3rd	Paper -VIII	Histology, Histochemistry, Developmental Biology, Teratology, Evolutionary Biology, Adaptation	CO1: Students will learn the knowledge of basic terms in histology. CO2: The student will be able to Understands all four types of tissues. CO3: Identify the histological structure and function of various organs. CO4: Explain the location, structure and functions of various organs. CO5: Illustrate the histology of endocrine glands. CO6: Diagrammatically represent the various organs Explain the principles and process of fertilization and cleavage. CO7: Prepare the flow chart of gametogenesis process. CO8: Identify the developmental stages CO9: Understood the process of development of animals. CO10: Describe the process of gametogenesis. CO11: Understood the process of organogenesis of selected organs, development of extra embryonic membrane and the nature and physiology of placenta. CO12: Understood the theories of evolution and highlighted the role of evidences in support of evolution CO13: Explain the theories of organic evolution. CO14: Describe the concept of origin of life and theories of origin of life CO14: Darwinism, Lamarkism, Hardy Weinberg equations.
	Paper- IX	Ecology, Environmental Biology, Toxicology, Animal Behaviour	CO1: Students will be understanding the various features and aspects of population ecology, community ecology and ecosystem ecology. CO2: They might have the knowledge about environmental biology in details.

			<p>They will acquire knowledge about various tools and techniques of field ecology.</p> <p>CO3: The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.</p> <p>CO4: Understand Animal behaviour and response of animals to different instincts</p> <p>CO5: Interaction of biota abiota and adaptation</p> <p>CO6: Various kinds of Animal adaptations</p> <p>CO7: Distribution of fauna in different realms interaction</p>
	Paper -X	Applied Zoology, Conservation Biology, Bioinformatics	<p>CO1: Students will learn biology of fishes as well as various aquaculture techniques, Sericulture, apiculture in details.</p> <p>CO2: Gain knowledge to explain the tools and techniques used in aquaculture and agricultural practices</p> <p>CO3: They will learn Importance of Conservation, Indian wildlife acts and legislations</p> <p>CO4: Imparts knowledge to the student regarding environment and conservation biology.</p> <p>CO5: They will also understand few basic of bioinformatics</p>
	Paper- XI	Practical	<p>CO1: Students learn biostatistics which teaches them to use data analysis</p> <p>CO3 Students gains knowledge about statistical methods like measures of central tendencies, Probability</p> <p>CO4 Learns about hypothesis testing and inferential statistic</p> <p>CO5: Visit to a wildlife sanctuary will give students practical knowledge about wildlife.</p>

Course Outcomes

B.Sc General

Year	Paper/Course	Course Title	Outcomes
1st	Paper I	Structural diversity of non-chordates and chordates	<p>CO1: The student will be able to understand classify and identify the diversity of animals: chordates and non Chordates.</p> <p>CO2: The student will be able to understand the morphology, habit and habitat.</p> <p>CO3: Systematic position and various systems</p> <p>CO4: Students will also learn some special topics like zoogeography and their importance in adaptation</p> <p>CO5: Specific topics like metamorphosis in Amphibia, snake bites, migration of birds, parental care of amphibian, dentition of mammals</p> <p>CO6: The student will gain knowledge of general characteristics and classification of different classes of vertebrates</p>
	Paper II	Biochemistry, Cell Biology and Genetics	<p>CO1 Structural and functional aspects of basic unit of life i.e. cell concepts</p> <p>CO2 Mendelian and non Mendilian inheritance</p> <p>CO3 Concept behind genetic disorder, gene mutations- various causes associated with inborn errors of metabolism</p> <p>CO4: Attained the knowledge of macromolecule such as carbohydrates, protein and fat, their types and significance.</p> <p>CO5: Student will be able to described the enzymes, mechanism of enzyme action and factors affecting the enzyme activity</p>
	Paper III	Practical	<p>CO1: students will be able to identify various specimens non chordates and chordates</p> <p>CO2: Understood the anatomy and physiology of invertebrate animals by dissection.</p> <p>CO3: Described the structural study and mounting of specimens.</p> <p>CO4: Students become familiar to knowing the rules of taxonomy and the principle of animal classification.</p>
2 nd year	Paper IV	Histology, Development Biology, Endocrinology, Immunology	<p>CO1: Students will learn the knowledge of basic terms in histology.</p> <p>CO2: The student will be able to Understands all four types of tissues.</p> <p>CO3: Identify the histological structure and function of various organs.</p>

			<p>CO4: Illustrate the histology of endocrine glands.</p> <p>CO5: Diagrammatically represent the various organs</p> <p>CO6: Explain the principles and process of fertilization and cleavage.</p> <p>CO7: Prepare the flow chart of gametogenesis process.</p> <p>CO8: Identify the developmental stages</p> <p>CO9: Student will learn about immune cells, immunoglobulins, antigens and their interactions with antibodies. They will know about MHC molecules, cytokines, hypersensitivity reactions and cellular mode of immunity development</p>
	Paper V	Animal Physiology, molecular Biology, Biotechnology and Biostatistics	<p>CO1: The students Understood about the composition of food and mechanism of digestion absorption and assimilation.</p> <p>CO2: Attained knowledge of respiration and excretion and understood the mechanism of transport of gages and urine formation.</p> <p>CO3: Described the mechanism of circulation and composition of blood Explain DNA structure.</p> <p>CO4: Paraphrase the Central dogma of molecular biology. Understood the molecular structure of genetic materials and understood the mechanism of gene expression and regulation character formation.</p> <p>CO5: Illustrate the mechanism of replication, transcription and translation.</p> <p>CO6: Justify the post transcriptional and post translational modification Students learn biostatistics which teaches them to use data analysis</p> <p>CO7: Students gains knowledge about statistical methods like measures of central tendencies, Probability</p>
	Paper VI	Practical	<p>CO1: Students will be able to identify different vertebrate Endoskeletons</p> <p>CO2: Students will be able to identify different Histological sections</p> <p>CO3: Students will be able to identify different embryological slides of chick</p> <p>CO4: Students will be able to perform different tests for identification of carbohydrates</p>
3 rd year	Paper VII	Ecology, Evolution and Applied Zoology	<p>CO1: Students will be understanding the various features and aspects of population ecology, community ecology and ecosystem ecology.</p> <p>CO2: They might have the knowledge about environmental biology in details.</p>

			<p>They will acquire knowledge about various tools and techniques of field ecology.</p> <p>CO3: The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.</p> <p>Explain the theories of organic evolution.</p> <p>CO4: Describe the concept of origin of life and theories of origin of life</p> <p>CO5: Darwinism, Lamarkism, forces of evolution</p> <p>CO4: Students will learn biology of fishes as well as various aquaculture techniques, Sericulture, apiculture, poultry in details.</p>
	Paper VIII	Practical	<p>CO1: Identify the organs by studying the histological slides.</p> <p>CO2: Identify Zooplanktons under microscope</p> <p>CO3: Prepare blood smear and identify the various cells.</p> <p>CO4: Process animal tissues and prepare permanent histological slides.</p> <p>CO5: Count total leucocytes from blood samples</p>