

(1)

Bengali Hons. (BNGA) SEC and DSE Courses

[Sem – 3]

SEC – A-2:-

এই কোর্সটির নাম হল – ব্যবহারিক বাংলা – ১

নাটক, আবৃত্তি শিল্প অথবা সিনেমা বা দূরদর্শনকে যে সব শিক্ষার্থী পরবর্তী জীবনে পেশা হিসেবে গ্রহণ করতে চাইবে, তারা ঐ জাতীয় বিষয়গুলির প্রাথমিক ধ্যানধারণা অর্জন করবে এই কোর্সটি থেকে। আর, ঐ জাতীয় বিষয়গুলির সঙ্গে বাংলা ভাষা ও সাহিত্যের সম্পর্ক স্থাপন করাও এই কোর্সের অন্যতম উদ্দেশ্য।

[Sem – 4]

SEC – B-2:-

এই কোর্সটির নামঃ- ব্যবহারিক বাংলা – ২

বাংলা সাপ্তাহিক স্তরে শিক্ষার্থীরা যে সব সাহিত্যরূপ পড়ছে, তা কিভাবে তৈরী হয়ে ওঠে, তার কলাকৌশল সম্পর্কে এখানে হাতে-কলমে তাদের ধারণা দেওয়া হবে। সেই সঙ্গে বাংলা বানান এবং আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) ও রোমীয় লিপি সংক্রান্ত ব্যবহারিক জ্ঞানও এই কোর্সের মাধ্যমে দেওয়া হবে শিক্ষার্থীদের।

[Sem – 5]

DSE – A-1:-

এই কোর্সটির নাম ‘বাংলার সমাজ ও সংস্কৃতির ইতিহাস’। বাংলা ভাষা ও বাঙালি জাতির উদ্ভবের সময়পর্ব থেকে আধুনিক যুগ পর্যন্ত বাঙালির সাংস্কৃতিক বিকাশের ইতিহাস ও গতিরেখার সঙ্গে ছাত্রছাত্রীদের পরিচয় ঘটানোই এই কোর্সটির উদ্দেশ্য।

(2)

[Sem – 5]

DSE – B-1:-

এই কোর্সটির নাম ও বিষয় হল – ‘বাংলা শিশু-কিশোর সাহিত্য’।

বাংলা ভাষায় রচিত শিশু-কিশোর সাহিত্যের ঐতিহ্য সুগভীর ও দীর্ঘকালীন। সেই সম্ভার থেকেই কিছু নির্বাচিত, সুবিদিত পাঠকে এখানে শিক্ষার্থীদের সিলেবাসধর্মী পাঠপ্রক্রিয়ার অন্তর্ভুক্ত করা হয়েছে। শিক্ষার্থীরা এই গ্রন্থগুলি পাঠ করে সবিশেষ আনন্দ লাভ করবে এবং নতুনত্বের স্বাদ পাবে, পাঠ্যবিষয়ের মধ্যে।

[Sem – 6]

DSE – A-4:-

এই কোর্সটির নাম ও বিষয় হল – ‘তুলনামূলক সাহিত্য’।

এই কোর্সে শিক্ষার্থীদের ধ্রুপদী সাহিত্যের সঙ্গে আধুনিক সাহিত্যের, কখনও এই পর্যায়েরই বিভিন্ন ভাষায় লেখা সাহিত্যের তুলনামূলক পাঠদান করা হবে।

[Sem – 6]

DSE – B-4:-

এই কোর্সটির নাম এবং আলোচ্য বিষয় হল – ‘লোকসংস্কৃতি ও লোক সাহিত্য’।

বাঙালি এবং তার সংস্কৃতিকে জানতে গেলে আমাদের লোকসংস্কৃতি ও লোক সাহিত্যের পাঠ নেওয়া খুবই জরুরী। বাংলার সমৃদ্ধ লোক-ঐতিহ্য থেকে নির্বাচিত কয়েকটি প্রসঙ্গ এই কোর্সে ছাত্রছাত্রীদের চর্চার জন্য রাখা হয়েছে।

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Department of Bengali

Course Outcome and Programme Outcome
Bengali Honours (BNGA) : Core Courses / CC's

[Sem – 1]

CC – 1:- বাংলা ভাষা ও সাহিত্যের ইতিহাস (১৮০০ খ্রীঃ পর্যন্ত) এই কোর্সের পাঠ্য।

বাংলা সাহিত্যের সূচনাকাল থেকে আদিযুগ, মধ্যযুগের পথ পেরিয়ে আধুনিক যুগের দ্বারপ্রান্তে এসে পৌঁছানো পর্যন্ত বাংলা ভাষার ও সাহিত্যের সে ধারাগুলি সৃষ্টি হয়েছে এবং যেভাবে তাদের বিবর্তন ঘটেছে, তার সাথে ছাত্রছাত্রীদের পরিচয় ঘটানোই এই কোর্সের উদ্দেশ্য।

CC – 2:- বাংলা ভাষার সাধারণ ধারণা, অর্থাৎ ধ্বনিতত্ত্ব, রূপতত্ত্ব এবং শব্দতত্ত্ব এই কোর্সের পাঠ্য বিষয়। সাম্প্রতিক পর্যায়ের ছাত্রছাত্রীদের এই বিষয়গুলি জানা একান্তই জরুরী। তাই বাংলা ভাষার একটি প্রাথমিক কিন্তু বিস্তারিত পরিচয় বা ধারণা ছাত্রছাত্রীদের কাছে তুলে ধরাই এই কোর্সের উদ্দেশ্য।

[Sem – 2]

CC – 3:- এই কোর্সের পাঠ্য বিষয় হল – উনিশ শতকের বাংলা সাহিত্যের ইতিহাস।

ব্রিটিশ শাসনের যুগে ঔপনিবেশিক আধুনিকতার সংস্পর্শে এসে আমাদের দেশের মানুষের – বিশেষতঃ বাঙালীদের – চিন্তাভাবনা, জীবনধারা ও সাহিত্য সৃষ্টিতে যে নবজাগ্রত আধুনিকতার সঞ্চার ঘটেছিল, তার সঙ্গে শিক্ষার্থীদের পরিচয় ঘটানোই এই কোর্সের উদ্দেশ্য।

CC – 4:- এই কোর্সের পাঠ্য বিষয় হল কয়েকটি Text বা প্রত্যক্ষ সাহিত্য-পাঠ। অর্থাৎ এই কোর্সে রয়েছে প্রাচীন যুগ থেকে আধুনিক যুগ পর্যন্ত বাংলায় রচিত সাহিত্যের নানান নিদর্শন। কবিতা, কথাসাহিত্য, প্রবন্ধ ও নাটকের যে পাঠগুলির সঙ্গে এখানে ছাত্রছাত্রীরা পরিচিত হবে, সেগুলি তাদের এর পূর্বে পঠিত বাংলা ভাষা ও সাহিত্যের ইতিহাসকে উপলব্ধি করতে যেমন সাহায্য করবে, তেমনই সাহিত্যের রসাস্বাদনের মাধ্যমে তারা আনন্দ লাভ করবে। এইটাই এই কোর্সের উদ্দেশ্য।

(2)

[Sem – 3]

CC – 5:- এই কোর্সের পাঠ্য হল বিংশ শতাব্দীর বাংলা সাহিত্যের ইতিহাস।

এই কোর্সের মাধ্যমে বিশ শতকের বাংলা সাহিত্যের গতিপ্রকৃতি এবং স্বরূপ সম্পর্কে জ্ঞানার্জন করবে ছাত্রছাত্রীরা। বিশ শতকের গুরুত্বপূর্ণ কবি, কথাসাহিত্যিক, নাট্যকার, গদ্যশিল্পী ও প্রাবন্ধিক এবং সাময়িক পত্রগুলির সঙ্গে তাদের পরিচয় করানোই এই কোর্সের উদ্দেশ্য।

CC – 6:- এই কোর্সের বিষয় হল ঐতিহাসিক ভাষাবিজ্ঞান। প্রাচীন ভারতীয় আর্যভাষা থেকে আধুনিক ভারতীয় আর্যভাষারসূত্রে বাংলা ভাষার উদ্ভব ও বিকাশের প্রতিটি পর্যায়ের সাহিত্যিক নিদর্শনের সহায়তায় সেই সেই পর্যায়ের ভাষাগত বৈশিষ্ট্য সম্পর্কে ছাত্রছাত্রীদের ধারণা দেওয়াই এই কোর্সের মূল উদ্দেশ্য।

CC – 7:- এই কোর্সে শিক্ষার্থীরা আধুনিক যুগের বিখ্যাত সাহিত্যিকদের লেখা ‘কথাসাহিত্য’ অর্থাৎ উপন্যাস (২টি) এবং ছোটগল্প (রবীন্দ্রনাথ ঠাকুর ও অন্যান্য সাহিত্যিকদের লেখা) পড়বে।

আধুনিক সময়ের জটিলতা, ব্যক্তি ও সমষ্টির দ্বন্দ্ব, বাঙালির পারিবারিক জীবনে নারীর অবস্থান, পরিবেশ বিষয়ক ভাবনা এবং মানুষের লড়াই-সংগ্রামের বিভিন্ন প্রবণতাকে শিক্ষার্থীদের চিনিয়ে দেওয়ার চেষ্টা করা হবে, এই কোর্সের মাধ্যমে।

[Sem – 4]

CC – 8:- এই কোর্সের পাঠ্য হল, মধ্যযুগের বিভিন্ন সাহিত্য, যেমন – পদাবলী সাহিত্য ও মঙ্গলকাব্য।

প্রাগাধুনিক সাহিত্যের এই কোর্সটির মাধ্যমে শিক্ষার্থীরা যাতে বাঙালির সমাজ-বিবর্তন ও ধর্ম-সংস্কৃতির বিবর্তনের গতিরেখাটিকেও অনুধাবন করতে পারে, সেদিকে লক্ষ্য রাখা হয়েছে।

CC – 9:- এই কোর্সের বিষয় হল ছন্দ, অলংকার এবং কাব্যতত্ত্ব।

বাংলা সাহিত্যের ছাত্রছাত্রীদের ছন্দের নানা রূপ ও বৈচিত্র্য, ছন্দালিপি প্রণয়ন, অলংকারের নানা প্রকার ও প্রয়োগ এবং সাহিত্যতত্ত্ব ও কাব্যতত্ত্ব সম্পর্কে ব্যাপ্ত ও

(3)

গভীর জ্ঞান থাকা খুবই প্রয়োজন। এই কোর্স সেই উদ্দেশ্যই পূরণ করবে এবং শিক্ষার্থীদের কাব্য – কবিতা – সাহিত্য পাঠকে গভীরতর করবে।

CC – 10:-

এই কোর্সের পাঠ্য হল আধুনিক যুগের বিভিন্ন খ্যাতমান সাহিত্যিকের লেখা প্রবন্ধ ও বিবিধ গদ্যরচনা।

উনিশ শতকের মধ্যভাগ থেকেই বাঙালি চিন্তাবিদগণ সমাজ, রাষ্ট্র, শিক্ষা, বিজ্ঞান, ভাষা, সাহিত্য, ধর্ম, সংস্কৃতি, মানব- মনস্তত্ত্ব – ইত্যাদি নানা বিষয়ে প্রবন্ধ ও গদ্যরচনার মাধ্যমে তাঁদের ভাবনাকে ব্যক্ত করেছেন। এই কোর্সটির মাধ্যমে সেগুলির সঙ্গে পরিচিত হয়ে শিক্ষার্থীরা সমাজ ও সাহিত্যের বিচিত্র বিষয়ে সমৃদ্ধ হতে পারবে।

[Sem – 5]

CC – 11:-

সাহিত্যের রূপবৈচিত্র্য ও গঠনরীতি সম্পর্কে এই কোর্সে ধারণা প্রদান করা এই কোর্সের উদ্দেশ্য। সাহিত্যের বিভিন্ন সংরূপের রূপ ও রীতি সম্পর্কে জ্ঞানার্জনের পাশাপাশি ছাত্রছাত্রীরা ধারণা লাভ করবে সাহিত্যের বিবর্তন সম্পর্কেও।

CC – 12:-

এই কোর্সের পাঠ্য হল, নাটক ও নাট্যমঞ্চ। নাটক যেহেতু সমাজ – বাস্তবতার দর্পণ, তাই এই কোর্সের উদ্দেশ্য হল নাট্যসাহিত্য – পাঠের পাশাপাশি শিক্ষার্থীরা যাতে নাট্যমঞ্চের বিকাশ সম্পর্কেও যথেষ্ট অবহিত হতে পারে।

[Sem – 6]

CC – 13:-

ঔপনিবেশিক আধুনিকতার সংস্পর্শে এসে আমাদের বাংলা কাব্য – কবিতায় যে নতুন যুগের সঞ্চার হয়েছিল, তারই বিভিন্ন পর্বকে শিক্ষার্থীরা যাতে ঠিকমতো অনুধাবন করতে পারে, সেটি-ই হল এই কোর্সটির উদ্দেশ্য।

CC – 14:-

বাংলা সাহিত্যের সামগ্রিক পরিচয় পাওয়ার পর একজন শিক্ষার্থী সংস্কৃত, ইংরেজি এবং প্রতিবেশী (হিন্দী) সাহিত্যের ইতিহাস সম্পর্কে প্রাথমিক পরিচয় লাভ করবে এবং সেই আলোকে বাংলা সাহিত্য সম্পর্কেও তার মূল্যায়ন আরো স্বচ্ছ হয়ে উঠবে – এই কোর্সটির এটিই হল উদ্দেশ্য।

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Purash Kanpur Haridas Nandi Mahavidyalaya

DEPARTMENT OF ENGLISH

PROGRAM SPECIFIC OUTCOME

English Literature courses in the Department of English expose students to a wide range of writing from British, American and Anglophone traditions. It helps students explore how writers use the creative resources of language-in fiction, poetry, nonfiction prose, and drama-to explore the entire range of human experience. Students are expected to strive, to be imaginative, rhetorically dexterous, and technically proficient and as a result, to gain a deeper insight into life. With the introduction of new syllabus under CBCS, which promotes a new thematic framework where classical literature share space with contemporary literary crosscurrents, UG syllabus at Purash Kanpur Haridas Nandi Mahavidyalaya will help students build skills of analytical and interpretive argument, and become careful and critical readers. Again, students' engagement with various strategies of drafting and revising, style of writing and analytical skills, diagnosing and developing scholarly methodologies, use of language as a means of creative expression, will make them effective thinkers and communicators — qualities which are crucial for choosing careers in our information-intensive society.

Specific learning outcomes for English courses include the following:

- 1. Reading:** Students will gain awareness about the best literary traditions of the world. By learning how others live and handle their lives, one becomes connected with the world in a way we might not otherwise experience. They will discover that they are part of a huge conglomerate of human thought and emotion. All the great texts that a student of English Honours will get to study will expand their range of experience. They can gain courage and strength by living vicariously through well-developed characters. Through reading students will have an awareness for various perspectives. This will also expand their range of experience and in the process they will learn to be more empathetic toward the plights of others.
- 2. Literature, Nation and Tradition:** The current syllabus in the UG level will provide students an opportunity to know India's age old literary and cultural tradition through their exposure to modern Indian vernacular literature in translation. How reading literature in English can be an effective means to address the complex issues of identity, nationalism, historical tradition in Indian context, is a new focus area of the present course.
- 3. Awareness about Culture and History:** Students gain an understanding of the relations between culture, history and texts. They learn to use texts as a gateway to various cultural traditions and interpret them in their historical contexts. How a literary text can appear as an ideal platform to locate dominant and marginalized voices of a society, is an important focus of the under-graduate literature programme.

4. Gaining of Critical Insight: An exposure to various social and cultural traditions and through the reading of representative texts from different periods help a student gain a critical insight about the reality as a whole. With the help of their knowledge of various critical theories it is expected that they will be able to construct their own meaning about the reality and his historical situatedness.

5. Issue of Sexuality and Gender: Literature course teaches a student to believe that one's own sense of identity is not enough to persuade the rest of the world to agree. Human beings are no longer bound by such binary concepts as male-female or masculine-feminine. They will learn that sex is a biological concept based on biological characteristics, whereas gender deals with personal, societal and cultural perceptions of sexuality. Appropriation of literary texts as tools of cultural study will help students to challenge centuries of social tradition and scientific belief which promote such and other types of differentiations.

6. Cross Fertilization with allied Arts: Students of English Honours should also be able to articulate the relations among culture, history, and texts—for example, ideological and political aspects of representation, economic processes of textual production, dissemination and reception, and cross-fertilization with other arts: architecture, sculpture, music, film, painting, dance, and theatre.

7. Acquisition of Values: Acquisition of values is needed for individual development and social transformation. English literature course at UG level, like any other literary course, helps a student to gain subjective experience of the text's aesthetic value. This helps in developing quality of thinking and imagination and is a step forward to emerge as a better human being. Through their judgment of the aesthetic value of a literary text students will learn to appreciate whatever is good and beautiful in life. Their healthy mind will thus be storehouse of healthy thoughts.

8. Writing skills and Process: Students will be able to recognize and comprehend different varieties of English language and develop a writing style of their own. English Honours students should be aware also that textual analysis can be extended with profit to political, journalistic, commercial, technical, and web-based writing. It is expected that their exposure to the ideas of a variety of writers and their cultural backgrounds, will have a bearing in their own literary styles. With the development of their writing skills and finesse of style there will be a possibility of them emerging as perspective writers, editors, content developers, teachers etc.

9. Means of Effective Communication: Study of literature is intertwined with the study of language. Learning various language patterns, sentence structures and dialogue forms can help one in real life in effectively communicating with others. English is the language of science, computers, diplomacy, and tourism. Knowing English increases students' chances of getting a good job in future.

COURSE OUTCOME

The Department of English of Purash Kanpur Haridas Nandi Mahavidyalaya seeks to foster the intellectual development of its students by encouraging study of literature and writing. The Department strives to make its pass and honours programme students familiar with a wide range of works of British writers in particular and World literature in general with a special focus on Indian writings in English. The issues of culture, history, gender, race, ethnicity, politics are addressed and negotiated in the process of imparting knowledge of English literature in its pluralistic forms, to help students develop a critical mindset of their own. The Department wishes that each student who graduates with a BA Honours in English from Purash Kanpur Haridas Nandi Mahavidyalaya, will have an enduring interest in language and literature, an awareness of their historical and cultural legacies, knowledge of complexities of human existence, the political and social upheavals and its bearing on literature, an understanding of the ability of great literature to arouse and challenge people to struggle with insightful questions of human identity and values.

1. History of Language and Literature, English Communication, Creative Writing. (CC1,AECC 1,SEC A2, SEC B1, LCC)

After Completion of this Course Students will be able to ...

- i. Know the process of beginning and growth of English language and literature.
- ii. Know about various innovative ways of using English language in verbal and non-verbal communications.
- iii. Write clearly, effectively, and creatively, and adjust writing style appropriately to the content, the context, and nature of the subject.
- iv. Think about the relation between language and literature

2. Classical Literatures (CC2)

After Completion of this Course Students will be able to ...

- i. Read and understand about the rich classical texts from Greco-Roman literatures in translated versions.
- ii. Trace the nature of influence that all the classical texts have on modern English literatures.
- iii. Appreciate these texts as a source of great wisdom.
- iv. Interpret these texts from contemporary points of view.

3. British Literature (CC4,CC7,CC8,CC9,CC10, CC12)

After Completion of this Course Students will be able to ...

- i. Trace the developmental history of English Literature from Old English Period to Modern Times.
- ii. Show familiarity with major literary works by British writers in the field of Drama and Poetry.
- iii. Be acquainted with major religious, political and social movements from 14th to

20th century and their influence on literature.

iv. Learn various interpretative techniques to approach literary texts of varied genres.

4. Women's Writing (CC11, DSE B2)

After Completion of this Course Students will be able to ...

i. Learn how and on what grounds women's writings can be considered as a separate genre.

ii. Read and understand canonical texts written by Women writers across different ages.

iii. Differentiate between sex and gender and how the later is a social construction.

iv. Be aware about the issues and concerns of the women writers of the developed, developing and under-developed countries.

5. Modernism (CC12,CC13)

After Completion of this Course Students will be able to ...

i. Know about the meaning and scope of the concepts of the Modern/Modernity/Modernism.

ii. Study and interpret representative writings from the 20th century.

iii. Acquaint themselves with the great tradition of modern European drama

iv. Examine various literary techniques that writers of 20th century use in writing their texts, and demonstrate an understanding of these techniques.

v. Reflect upon the great upheaval that the world has undergone during 20th century and the constructive role of literary activism/movements in restoring humane Values.

6. Literary Theory & Criticism (DSE A2)

After Completion of this Course Students will be able to ...

i. Learn the history of literary criticism and various literary theories.

ii. Apply critical and technical theory and vocabulary to describe and analyze, and formulate an argument about literary and other texts.

iii. Think about the non-fixity of meaning of literacy texts.

iv. Develop a skill in applying various literary theories in interpreting a specific text.

7. Post-colonial Experience (CC14)

After Completion of this Course Students will be able to ...

i. Know how a literary text, explicitly or allegorically; represents various aspects of colonial oppression.

ii. Question how does a text reveal about the problematics of post-colonial identity.

iii. Learn how a text reveals about the politics and/or psychology of anti-colonialist resistance.

iv. Trace the history of post-colonial movements in India and its textual representations.

v. Locate and represent subaltern voices through their own writings.

8. Indian Literature (CC3, DSE A3, DSE B2, DSE B3)

After Completion of this Course Students will be able to ...

- i. How and why Indian literature emerged as a distinct field of study.
- ii. Trace the development of history of English literature from its beginning to the present day.
- iii. Interpret the works of great writers of Indian writers in English.
- iv. Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian English literature.
- v. Understand and appreciate the affect of partition in literature.
- vi. Interpret personal history through the individual's negotiation with society and culture in autobiography.

9. Popular Literature (CC6)

After Completion of this Course Students will be able to ...

- i. Know the meaning of Popular Literature and its distinct characters.
- ii. Read and understand some of the representative popular literary pieces.
- iii. Understand how formulaic elements create the ideal world without limitations or uncertainties in readers' imagination.
- iv. Probe into the literary and aesthetic merits of popular fictions.

10. Academic Writing: (SEC B2)

After Completion of this Course Students will be able to ...

- i. Learn how to cite sources in a research paper.
- ii. Paraphrase a complex idea and compose critical note on the same.

11. Translation Studies (SEC A1)

After Completion of this Course Students will be able to ...

- i. Appreciate the importance of translation in a multilinguistic and multicultural society.
- ii. Develop skills to perform and appreciate transcreation.

12. Media Studies: (DSE A4)

After Completion of this Course Students will be able to ...

- i. Learn about mass communication in the age of globalisation
- ii. Learn about newer communication means and performances..

13. Performance Studies: (DSE B4)

After Completion of this Course Students will be able to ...

- i. Build an overview of Indian and Western theatre
- ii. Be appreciative of the folk tradition.

B.A. PROGRAMME OUTCOME

Following are the expected Programme outcome of UG courses in the social science subjects at Department of ENGLISH.

[A] Critical Close Reading

An ability to read critically the prescribed texts and understand its broader implications.

This includes:

- i. Read closely in a variety of forms, styles, structures, and modes.
- ii. Use of various interpretative techniques.

[B] Critical Thinking

An ability to think critically on various issues and subject matters and relate the same with real life situations.

This includes the ability to:

- i. Synthesize and integrate knowledge.
- ii. Practice and develop argumentative skills.
- iii. In-depth study of the subject matter.

[C] Integration of Knowledge:

Demonstrate detailed knowledge in one or more disciplines and the ability to integrate knowledge across disciplinary boundaries.

This includes the ability to:

- i. Study the current state of knowledge.
- ii. Multi-disciplinary learning ability.
- iii. Show familiarity with works from other disciplines.

[D] Communication Skill

Demonstrate the ability to extract and convey information accurately in a variety of formats.

This includes:

- i. An ability to adjust writing style appropriately to the content, the context, and nature of the subject.
- ii. Ability to communicate ideas logically.
- iii. Write clearly and effectively in a variety of forms, adapting writing and analytical skills to all situations

[E] Research Aptitude

Development of a spirit of critical and scholarly enquiry for the subject.

This includes:

- i. To identify and evaluate appropriate research sources,
- ii. To incorporating the sources into documented academic writing,
- iii. To formulate original arguments in response to those sources.
- iv. To apply appropriate research methodologies to specific problems

[F] Role as a Global Citizen

A critical understanding about the ways of the world and realization of one's role within communities to effect change.

This includes the ability to:

- i. Demonstration of intercultural awareness.
- ii. To understand the meaning of cultural globalization in true sense.
- iii. Collaborate respectfully with others, individually and in teams.
- iv. Maintain highest ethical standard in personal life.

HISTORY COURSE AND PROGRAMME OUTCOMES

Course Outcomes

Purash Kanpur Haridas Nandi Mahavidyalaya, Howrah offers the Three- year B.A Honours in History which comprises 6 Semesters. The curriculum consists of 14 Core Courses (CC), 4 Discipline Specific Elective (DSE) courses, 2 Skill Enhancement Courses (SEC). The Generic Elective Courses (GE) are same as the Core Courses (CC) offered in the B.A General Syllabus. The semester wise distribution of papers along with brief course specific outcomes are described below. Overall programme outcomes have been stated at the end.

SEMESTER-1

Paper CC1- History of India (From the Earliest times to C300 BCE).

Paper CC2- Social Formations and Cultural Patterns of the Ancient World other than India.

The above two papers give an insight into the ancient civilizations of both India and the world. Thus by studying these papers the students gain knowledge about the evolution of mankind through the different ages referred to as the Stone Ages and the unfolding of different cultures and civilizations based on them in India and the world at large.

SEMESTER-2

Paper CC3-History of India (c300BCE to c.750 CE).

PaperCC4- Social Formations and Cultural Patterns of the Medieval World other than India.

The above two papers help the students to form a comprehensive idea about the early medieval period of India which is actually a transition period. How the ancient period gradually changes its characteristics making place for the beginning of the medieval period is extremely interesting and a dynamic period of Indian History. The changes in the political, social, economic and cultural front which occurs during this period acquaint the students with all kinds of knowledge in all disciplines be it politics, economics, literature, science etc. Growth of regional politics is an important development during this period.

In case of the second paper the students are made familiar with the extremely rich civilizations of the world like the Egyptian, Chinese, and Greek and Roman civilizations. This paper actually help the students to develop a liking for world history and understand international events to be taught in the following semesters.

SEMESTER-3

Paper CC5- History of India (c.750 BCE- 1206).

Paper CC6-Rise of the Modern West- 1.

Paper CC7- History of India (c. 1206- 1526).

In this semester the students learn about the medieval period of Indian history in two phases i.e. the Delhi Sultanate and the Mughal period. In the second paper the history of transformation of Europe is introduced. The transition of the European Civilization from feudal economy to a capitalist one and the debate centring on it comprises a very important phase of world history. The invention of printing press which actually revolutionised communication, the invention of

gunpowder bringing forth the military revolution are some of the very important topics which students study in this paper.

SEMESTER-4

Paper CC8- Rise of the Modern West- II.

Paper CC9- History of India (c. 1526- 1605).

Paper CC10- History of India (c. 1605- 1750s).

In this semester the students mainly study the history of Great Britain under the Stuart Period mainly the Civil War, the Scientific Revolution, the period of remarkable inventions especially in the field of medical science and the new economic concepts like mercantilism and the beginning of the Industrial Revolution in the paper on European History. The other two papers chart the trajectory of the history of India from the beginning of the Mughal period till the advent of the British and the consolidation of their power in India

SEMESTER- 5

Paper CC11- History of Modern Europe (c. 1780- 1939).

Paper CC 12- History of India (c. 1750-1857).

In this semester the students are made familiar with the various revolutions starting with the epoch making French Revolution which actually paved the way for emergence of democracy along with the birth of the ideas of liberty, equality and fraternity. Thus this period of history witnessed a constant struggle between the reactionary forces and those who were progressives. On the Indian side we have the outbreak of the Revolt of 1857, its causes and consequences; thus in both these papers the students are made familiar with the ideas of nationalism by making them aware of the struggles against the colonising powers. These papers are therefore extremely important in the present context.

SEMESTER- 6

Paper CC 13- History of India (c. 1857- 1964).

Paper CC14- History of World Politics (1945- 1944).

In the last two papers the Indian national movement for independence, the outbreak of the Second World War followed by the birth of two power blocs namely the communist and the capitalist represented by United States and the Soviet Union.

Discipline Specific Elective (DSE) and Skill Enhancement Courses (SEC).

In Semester 5 the two DSE Papers taught are:

Paper DSE-A-1: History of Bengal (c. 1757-1905)

Paper DSE B-1: History of Modern East Asia- 1 China (c.1840-1945).

In Semester 6 the two DSE Papers taught are:

Paper DSE-A-3: History of Bengal (c.1905-1947),

Paper DSE- B-3: History of Modern East Asia-ii, Japan (c. 1868-1945).

All the four DSE papers taught in Semester 5 and 6 and also some others offered as choice, mainly focuses on the history of particular countries and regions and thereby helps the students to make a detailed study which gives them an idea of specialisation with which they will become familiar in their post graduate courses.

Apart from the DSE papers there are again 2 SEC Papers which can be taught in the honours Course of Sem 3 and 4. There are also four SEC Papers, which can be taught from Sem 3 to Sem 6 in the general courses. These papers mainly deal with and lays emphasis on the archaeological, Cultural, Art& Architecture, Environmental, Gender and Oral History.

The Six Papers of the General Course CC1/GE1, CC2/GE2, CC3/GE3, CC4/GE4, DSE A, DSE B charts the entire course of the history of India chronologically and also some parts of world history and some important historical concepts such as capitalism, feudalism, renaissance, industrial revolution, Marxism etc.

History is a discipline that instructs students on how to read and process data on people, societies, cultures, events and places that are far removed in time and space from our present. However since it is a continuous dialogue between the past and present, the practitioners of this discipline never face any difficult in comprehending the events which have already ceased to exist in the current world. The study of history is the study of humanity and it reveals truths about the human condition. Studying History reveals that people are fundamentally similar to each other regardless of where and when they live, and that many differences arise because of cultural differences. The sense of Unity in Diversity is one of the most valuable tenets of History which forms an important component of the human civilization. The noble values of tolerance, empathy, patience, can owe their existence to the past. Even warfare, ruthlessness, cruelty, deception, betrayal which can be termed as 'negative' are also associated with a large number of historical events. However such events clearly show that the consequences are not pleasant and that is a valuable lesson of History for the generations to come.

Overall, the present curriculum of History (Honours and General), provides an all encompassing outlook to the students by giving them an in-depth knowledge on the political, social, economic, cultural dimensions of those particular periods, Even the marginalised population , women and other deprived sections are now being given their due importance which lacked in the previous historiography of the Elites. The papers on skill enhancement makes an attempt to attract the students to subjects like museology, art history, media which might help them to find newer avenues of employment. A student of History is well equipped to work in any field be it academics, civil services, journalism, mass communication, since they are made familiar with all the important attributes of life. Today research in History is making strides into newer areas every day. Gender studies, subaltern studies, history of medicine, technology, popular culture and many other fields are now being continuously invaded by the historian. Thus it is a subject with enormous scope, impregnated with positivism.

**COURSE STRUCTURE UNDER CHOICE BASED CREDIT SYSTEM
(CBCS)
FOR
SEM- I, SEM-II, SEM-III, SEM- IV, SEM- V, SEM- VI
IN
POLITICAL SCIENCE
ACADEMIC SESSION 2020-21
SYLLABI B.A. POLITICAL SCIENCE**

Politics affects virtually every aspect of our lives, including the availability of education, jobs, housing and healthcare. Whether countries are at war or at peace depends both on what governments do and who supports them. The demand for political science study and research is growing because of increasing interest in politics, foreign affairs, and public policy. It also includes social and environmental policy issues, healthcare and immigration.

Political science is the study of political values, institutions, processes, and policies. Political scientists seek to understand the underlying ways in which power, authority, rules, constitutions and laws affect our lives. The study of political science prepares one for life as an informed citizen, ready to participate in political activities within interest groups or political parties; related to community organisation and political advocacy; or even service as an elected or appointed official. Political science is the study of people and societies struggling with great and enduring issues such as war and peace, order and freedom, and justice and equality. Understanding how and why those issues are resolved, or fail to be resolved, is at the heart of education in political science.

Studying politics encourages the development of both specific and transferable skills. It helps you to develop reasoning and analytic skills, and to arrive at decisions based on the analysis and synthesis of information and data, build competence in oral and written expression, research and evaluation skills, which are valued in a wide spectrum of potential career areas.

A bachelors' degree in politics offers direct access to International Relations, International Affairs, Global Politics, Defense Strategic Studies, Peace and Conflict Resolution Studies, Public Administration, and allied subjects. Political science is a very useful base for professional education in law, social work, teacher training, journalism, public relations or development studies. Teaching, research and publishing are typical occupations for the political scientist. Studying political science can also lead to careers in the government, in law, business, international organizations, non-governmental organizations or not-for-profit organizations, think tanks, in campaign management and polling, journalism, and electoral politics. Although a career in politics could be considered a typical opportunity for a political scientist, it is not a

must. Campaigns and elections are one of the more obvious career choices. Traditional campaign jobs are generally found through individuals and local parties. Volunteering for a campaign or a local party will help you to get a paid position later. Careers in campaign management are cyclical as they come and go with election schedules, but there are on-going opportunities with consulting firms or a political action committee of an interest group. Political science is a very useful base for a career in social work, human rights, social or political research and urban planning. The syllabus of political science has been made with the following course objectives.

Core Course I – Political Theory-Concepts

Course Objective: This course helps the student familiarize with the basic normative concepts of political theory. Each concept is related to a crucial political issue that requires analysis with the aid of our conceptual understanding. This exercise is designed to encourage critical and reflective analysis and interpretation of social practices through the relevant conceptual toolkit.

Core Course II- Understanding Political Theory: Approaches and Debates

Course Objective: This course is divided into two sections. Section A introduces the student to the idea of political theory, its history and approaches, and an assessment of its critical and contemporary trends. Section B introduces the students to the important debates in the subject. These debates prompt us to consider that there is no settled way of understanding concepts and that in the light of new insights and challenges, besides newer ways of perceiving and interpreting the world around us, we inaugurate new modes of political debates.

Core Course III- Constitutional Government in India

Course objective: This course acquaints students with the constitutional design of state structures and institutions, and their actual working over time. The Indian Constitution accommodates conflicting impulses (of liberty and justice, territorial decentralization and a strong union, for instance) within itself. The course traces the embodiment of some of these conflicts in constitutional provisions, and shows how these have played out in political practice. It further encourages a study of state institutions in their mutual interaction, and in interaction with the larger extra-constitutional environment.

Core Course IV- Politics in India: Structures and Processes

Course objective: Actual politics in India diverges quite significantly from constitutional legal rules. An understanding of the political process thus calls for a different mode of analysis - that offered by political sociology. This course maps the working of 'modern' institutions, premised on the existence of an individuated society, in a context marked by communitarian solidarities, and their mutual transformation thereby. It also familiarizes students with the working of the Indian state, paying attention to the contradictory dynamics of modern state power.

Core Course V- Indian Political Thought-I

Course objective: This course introduces the specific elements of Indian Political Thought spanning over two millennia. The basic focus of study is on individual thinkers whose ideas are however framed by specific themes. The course as a whole is meant to provide a sense of the broad streams of Indian thought while encouraging a specific knowledge of individual thinkers and texts. Selected extracts from some original texts are also given to discuss in class. The list of additional readings is meant for teachers as well as the more interested students.

Core Course VI-Comparative Government and Politics

Course Objective: This is a foundational course in comparative politics. The purpose is to familiarize students with the basic concepts and approaches to the study of comparative politics. More specifically the course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.

Core Course VII- Perspectives on International Relations

Course Objective: This Core Course seeks to equip students with the basic intellectual tools for understanding International Relations. It introduces students to some of the most important theoretical approaches for studying international relations. The course begins by historically contextualizing the evolution of the international state system before discussing the agency structure problem through the levels-of-analysis approach. After having set the parameters of the debate, students are introduced to different theories in International Relations. It provides a fairly comprehensive overview of the major political developments and events starting from the twentieth century. Students are expected to learn about the key milestones in world history and equip them with the tools to understand and analyze the same from different perspectives. A key objective of the course is to make students aware of the implicit Euro-centricism of International Relations by highlighting certain specific perspectives from the Global South.

Core Course VIII- Indian Political Thought-II

Course objective: Based on the study of individual thinkers, the course introduces a wide span of thinkers and themes that defines the modernity of Indian political thought. The objective is to study general themes that have been produced by thinkers from varied social and temporal contexts. Selected extracts from original texts are also given to discuss in the class.

Core Course-IX- Global Politics since 1945

Course objective: This course introduces students to the key international developments since the end of the Second World War. The emergence of the cold war and its evolution, birth of regional organizations, global governance mechanisms, implications of globalizations have been discussed in detail. The second section of the course deals with India's regional foreign policy vis-à-vis her South Asian neighbours. It also deals with the organizational structure and functioning of the United Nations.

Core Course X- Western Political Thought and Theory I

Course objective: This course goes back to Greek antiquity and familiarizes students with the manner in which the political questions were first posed. Machiavelli comes as an interlude inaugurating modern politics followed by Bodin, Hobbes, Locke and Rousseau. This is a basic foundation course for students.

Core Course XI- Western Political Thought and Theory II

Course objective: This course aims to familiarize the students with important modern political thinkers stretching from the 18th century encompassing traditions as varied as Idealism, Utilitarianism, Liberalism, Anarchism as well as Socialism.

Core Course XII- Political Sociology

Course Objective- This course introduces the students to the intricate-multi-layered inter-play of society and politics along myriad categories of identity such as caste, class, elite, tribe, religion, gender etc. It also makes the students acquainted with important concepts such as political participation, political development and political communication.

Core Course XIII- Public Administration: Concepts and Perspectives

Course Objective: The course provides an introduction to the discipline of public administration. This Core Course encompasses public administration in its historical context with an emphasis on the various classical and contemporary administrative theories. The course also explores some of the recent trends, including feminism and ecological conservation and how the call for greater democratization is restructuring public administration. The course will also attempt to provide the students a comprehensive understanding on contemporary administrative developments.

Core Course XIV- Administration & Public Policy in India

Course Objective: The Core Course seeks to provide an introduction to the interface between public policy and administration in India. The essence of public policy lies in its effectiveness in translating the governing philosophy into programs and policies and making it a part of the community living. It deals with issues of decentralization, financial management, citizens and administration and social welfare from a non-western perspective.

Objective of studying Economics as general paper

The basic objective of the study of Economics is to provide general understanding of the functioning of economic systems and the role of institutions and groups in that system. In doing so, the subject teaches the following:

- i) How people chooses the best among the competing alternatives available and how they trade them off against each other.
- ii) What drives the people to do what they do and how they react when faced with incentives and disincentives.
- iii) How the society as a whole can achieve efficiency.
- iv) How humanity has managed over generations to become more healthy and prosperous than ever before.
- v) How price mechanism functions and allocates scarce resource.

The Science of Economics encompasses the subject matter of history, politics, psychology and business and uses the tools of mathematics and statistics .Therefore, the secondary objectives of the study of Economics are:

- i) To provide strong foundation courses (like Microeconomics , Macroeconomics , Development Economics and Indian Economics) for students of Geography (H) , Political Science (H) , Bengali (H) , English (H) ,and Accounting and Finance (H) as minor/generic subject
- ii) To develop critical thinking skills of students through knowledge of different tools of Economic Science which help them understand their economic world and interpret events that will either directly or indirectly affect them.
- iii) To apply the critical thinking skills of students to factual knowledge for the development of effective decision making skills.

Course objective : Economics (General)

Purash Kanpur Haridas Nandi Mahavidyalaya offers Economics (General) as a subject under CBCS of the University Of Calcutta. Economics (General) can be taken as Core Course (cc) and Generic Elective(GE) Course. Those who take Economics (General) as Core Course have to study Economics(General) as Discipline Specific Elective(DSE) course and Skill Enhancement Course(SEC). Course Code, Course Name and Course Objective of each of the course are given below:

1 . Course Code : CC1/GE1 ; Course Name : Introductory Microeconomics

Objective of this course is to impart knowledge about economic system,price mechanism,behaviour of individuals and firms in making decisions regarding allocation of scarce resources, , price determination under different market forms and factor price determination .

2. Course Code : CC2/GE2 ; Course Name : Introductory Macroeconomics

Objective of this course is to impart knowledge on the functioning of the economy as a whole ,measurement and determination of different macro economic variables like national income , price level , national employment and unemployment,rate of inflation , etc., the Classical macroeconomic system , the Simple Keynesian model , role of govnrment in macro economic policy making, international trade theory and policy.

3. Course Code : CC3/GE3 ; Course Name : Issues in Economic Development and India

This course is designed to give idea on economic development, human development, poverty and inequality, with special reference to Indian economy , development of dual economy , development strategies , International Organisations and economic development .

4. Course Code : CC4/GE4 ; Course Name : Indian Economic Policies

This course is designed to impart knowledge on different policies undertaken in india after independence and their impact on Indian economy .

5. Course Code : DSE 5 - 1A/ 2A ; Course Name : Money and Banking (MB)

The objective of this course is to provide understanding on Financial Institutions and Financial Markets , money supply , interest rates , banking system and monetary policy with reference to Indian economy .

6. Course Code : DSE 5-1A/2A ; Course Name : Sustainable Development (SD)

This course is designed to provide knowledge on sustainable development , pollution , climate change and sustainable resource management policies in India .

7. Course Code : DSE 6-1B/2B ; Course Name : Public Finance (PF)

The objective of this course is to give knowledge on the theory of Public Finance and different issues from Indian Public Finance .

8. Course Code : DSE 6-1B/2B ; Course name : Economic History of India (EHI)

This course is designed to provide understanding on economic history of India under the British rule.

9. Course Code : SEC 3-1A/SEC 5-2A ; Course Name : Introductory Methods of Field Survey (IMFS)

The objective of this course is to equip the students with basic ideas of economic data and methodologies of collection and recording of such data .

10. course Code : SEC 3-1A/ SEC 5-2A ; Course Name : Elementary Rural Development (ERD)

This course is designed to give knowledge on basic issues in Rural Development , Rural Credit and Self Help Groups and selected Government policies for Rural Development in India .

11. Course Code: SEC 4-1B/ SEC 6-2B; Course Name: Economic Data Analysis and Report Writing (EDARW)

The objective of this course is to give knowledge on descriptive statistics and its role on Data Analysis and elements of Report Writing .

12. Course Code : SEC 4-1B/SEC 6-2B ; Course Name : Entrepreneurship and Development (ED)

The objective of this course is to give understanding on basic issues of Entrepreneurship and economic development , Financial resources for new ventures of an entrepreneur , growth strategies and sickness in small business.

Course & Program Outcomes of Geography (Hons & Gen) Under CBCS

Purash Kanpur Haridas Nandi Mahavidyalaya, Howrah

Course Outcomes of Geography Honours:

Semester 1

1. CC-1 – Geotectonics and Geomorphology

- i) Understand earth's tectonic and structural evolution. Gain knowledge about earth's interior. Develop an idea about concept of plate tectonics, and resultant landforms.
- ii) Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms.
- iii) Understanding crustal mobility and tectonics; with special emphasis on their role in landform development.
- iv) Overview and critical appraisal of landform development models.
- v) Ability to record temperature, pressure, humidity and rainfall.
- vi) Develop the skills of identification of features and correlation between them.
- vii) Do field surveys using appropriate techniques.
- viii) Identification of rocks and minerals.

2. CC-2- Cartographic Techniques

- i) Understand and prepare different kinds of maps.
- ii) Recognize basic themes of map making.
- iii) Development of observation skills.

Semester 2

3. CC-3- Human Geography

- i) Gain knowledge about major themes of human Geography.
- ii) Acquire knowledge on the history and evolution of humans.
- iii) Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations.
- iv) Develop an idea about space and society.

4. CC-4- Thematic Mapping and Surveying

- i) Comprehend the concept of scales and representation of data through cartograms.
- ii) Interpret geological and weather maps.
- iii) Learn the usages of survey instruments.
- iv) Brings direct interaction of different types of surveying instruments like Dumpy level and Theodolite with environment.
- v) Develop an idea about different types of thematic mapping techniques.

Semester 3

5. CC-5- Climatology

- i) Understand the elements of weather and climate, different atmospheric phenomena and climate change.
- ii) Learn to associate climate with other environmental and human issues. Approaches to climate classification.
- iii) To analyze the dynamics of the Earth's atmosphere and global climate. Assessing the role of man in global climate change.

- iv) Prepare various climatic maps and charts and interpret them.
- v) Learn to use of various meteorological instruments.
- vi) Learn the interaction between the atmosphere and the earth's surface. Understand the importance of the atmospheric pressure and winds.
- vii) Understand how atmospheric moisture works.

6. CC-6- Hydrology and Oceanography

- i) Analyse the concepts of Hydrology and Oceanography
- ii) Emphasizing the significance of groundwater quality and its circulation.
- iii) Evaluate the role of the global hydrological cycle.
- iv) Studying the behavior and characteristics of the global oceans.
- v) Realize the importance of water conservation.
- vi) Identify marine resources and characteristics of ocean waters.
- vii) Interpret hydrological and rainfall dispersion graphs and diagram.

7. CC-7- Statistical Methods in Geography

- i) Learn the significance of statistics in geography. Understand the importance of use of data in geography.
- ii) Recognize the importance and application of Statistics in Geography.
- iii) Interpret statistical data for a holistic understanding of geographical phenomena. Know about different types of sampling.
- iv) Develop an idea about theoretical distribution.
- v) Learn to use tabulation of data. Gain knowledge about association and correlation.

8. SEC-A1- Coastal management

- i) Understand the different components of a coastal zone and the role of morpho dynamic variables of coast
- ii) Impact on the environment of different activities like mining, oil exploration, salt manufacturing, tourism and its management
- iii) Understand coastal hazards and its management
- iv) Know about the Coastal Zone Management, Exclusive Economic Zone and Coastal Regulation Zone

Semester 4

9. CC-8- Economic Geography

- i) Understand the concept of economic activity, factors affecting location of economic activity. Gain knowledge about different types of Economic activities.
- ii) Assess the significance of Economic Geography, the concept of economic man and theories of choice.
- iii) Analyze the factors of location of agriculture and industries.
- iv) Understand the evolution of varied types of economic activities.
- v) Map and interpret data on production, economic indices, transport network and flows.

10. CC-9- Regional Planning and Development

- i) Understand and identify regions as an integral part of geographical study.

- ii) Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.
- iii) Analyzing the concept of regions and regionalization.
- iv) Studying typical physiographic, planning, arid and biotic regions of India. Understanding the detailed geography of India.
- v) Gain knowledge about definition of region, evolution and types of regional planning. Develop an idea about choice of a region for planning.
- vi) Build an idea about theories and models for regional planning. Know about measuring development indicators.
- vii) They can know about delineation of formal regions by weighted index method and also delineation of functional regions by breaking point analysis.
- viii) Gain knowledge about measuring inequality by Location Quotient, and also measuring regional disparity by Sopher Index.

11. CC-10- Soil and Biogeography

- i) Have knowledge about the character and profile of different soil types.
- ii) Understand the impact of man as an active agent of soil transformation, erosion and degradation.
- iii) Recognize land capability and classify it.
- iv) Explaining the Pedological and Edaphological Approaches to Soil Studies - Processes of soil formation, types of soil, and principles of soil and land classification; and management.
- v) Understand the varied ecosystems and classify them.
- vi) Recognize the significance of biogeochemical cycles and biodiversity.
- vii) Comprehend the devastating impact of deforestation.
- viii) Identify soil types and derive their pH.

12. SEC-B2- Rural Development

- i) Understand Rural Development.
- ii) Know the Gandhian approach to rural development, Lewis model of economic development, 'big push' theory of development, Myrdal's model of 'spread and backwash effects'.
- iii) Comprehend the different Area based approach to rural development like Drought prone area programmes, PMGSY, SJSY, MNREGA, Jan Dhan Yojana.
- iv) Understand Rural Governance like Panchayati Raj System and different rural development policies and Programmes in India.

Semester 5

13. CC-11- Research Methodology and Fieldwork

- i) Have expertise in identification of area of study, methodology, quantitative and quantitative analysis, and conclusions to be drawn about the area – fundamental to geographical research.
- ii) Handle logistics and other emergencies on field.
- iii) Develop skills in photography, mapping and video recording.

14. CC-12- Remote Sensing, GIS and GNSS

- i) Have knowledge of the principles of remote sensing, sensor resolutions and image referencing schemes.

- ii) Interpret satellite imagery and understand the preparation of false color composites from them.
- iii) Training in the use Geographic Information System (GIS) software for contemporary mapping skills.
- iv) Analyzing and interpreting remotely sensed satellite images and aerial photographs in order to understand topographical and cultural variations on the Earth's surface.
- v) Conducting field excursions and preparation of field report on research on problem in different areas of India .
- vi) Apply GIS to the preparation of thematic maps.
- vii) Use GNSS.

15. DSE-A1-Fluvial Geomorphology

- i) Understand the scope and different component of Fluvial geomorphology.
- ii) Understand the models of channel initiation and network development.
- iii) Understand the fluvial morphodynamics.
- iv) Learn about the landforms created by fluvial activities.
- v) Human intervention and its impact.
- vi) Integrated watershed management planning.
- vii) Identification of drainage pattern.
- viii) Analysis of flood frequency.

16. DSE-B5- Cultural and Settlement Geography

- i) Understand the scope and content of cultural geography
- ii) Trace the development of cultural geography in relation to allied disciplines
- iii) Understand the concept of cultural hearth and realm, cultural diffusion, diffusion of religion
- iv) Develop an understanding of cultural segregation and cultural diversity, technology and development
- v) Learn about the various races and racial groups of the world
- vi) Identify the cultural regions of India
- vii) Acquire knowledge about Rural settlements- Definition, nature and characteristics
- viii) Analyze the morphology of rural settlements
- ix) Learn the rural house types, census categories of rural settlements and idea of social segregation
- x) Learn the census definition and categories of urban settlements
- xi) Analyze the urban morphology models of Burgess, Hoyt, Harris and Ullman
- xii) Differentiate between city-region and conurbation
- xiii) Analyze the functional classification of cities
- xiv) Develop the skill of mapping language distribution of India
- xv) Learn to plot proportional squares to illustrate housing distribution
- xvi) Acquire the skill of identifying rural settlement types from topographical sheet
- xvii) Understand Social Area Analysis of a city based on Shevky and Bell

Semester 6

17. CC-13- Evolution of Geographical Thought

- i) Perceive the evolution of the philosophy of Geography.
- ii) Appreciate the contribution of the thinkers in Geography.
- iii) Give power point presentations on different schools of geographical thought.
- iv) Discussing the evolution of geographical thought from ancient to modern times.
- v) Establishing relationship of Geography with other disciplines and man-environment relationships.
- vi) Analyzing modern and contemporary principles of Empiricism, Positivism, Structuralism, Human and Behavioral Approaches in Geography.

18. CC-14- Hazard Management

- i) Understand the nature of hazards and disasters.
- ii) Assess risk, perception and vulnerability with respect to hazards.
- iii) Prepare hazard zonation maps.
- iv) Assessing the nature, impact and management of major natural and man-made hazards affecting the Indian subcontinent.

19. DSE-A4- Resource Geography

- i) Understand the concept and classification of resources
- ii) Understand the approaches to resource utilization
- iii) Appreciate the significance of resources
- iv) Assess the pressure on resources
- v) Analyze the problems of resource3 depletion with special reference to forests, water and fossil fuels
- vi) Understand the concept of Sustainable Resource development
- vii) Understand the distribution, utilization, problems and management of metallic and non-metallic mineral resources
- viii) Analyze the contemporary energy crisis and assess the future scenario
- ix) Understand the concept of Limits to Growth, resource sharing and sustainable use of resources
- x) Develop the skill of mapping forest cover from satellite images
- xi) Develop the skill of mapping water bodies from satellite images
- xii) Analyze the decadal changes in state-wise production of coal and iron ore
- xiii) Learn to compute HDI

20. DSE-B8- Geography of India

- i) Learn characteristics of India on the basis of physiography, climate, soil, vegetation, agriculture, mineral and power resources, industrial development etc.
- ii) Population characteristics and its growth.
- iii) Learn characteristics of West Bengal on the basis of physiography, climate, soil, vegetation, agriculture, mineral and power resources, industrial development etc.

Course Outcomes of Geography General:

Semester 1

1. CC1/GE1-Physical Geography

- i) Understand the components of the earth system – atmosphere, lithosphere and hydrosphere;
- ii) Appreciate and understand various features of the spheres with local, regional and global examples;
- iii) Associate and bring out the relationships of the features of one sphere with other spheres.

2. CC2/ GE2-Human Geography

- i) Understand the basic concepts in various sub-fields of human geography;
- ii) Appreciate the growth, distribution and composition of population in different parts of the world;
- iii) Analyse the types and patterns of rural and urban settlements, urbanisation and related issues in India and other regions of the world.

3. CC3/GE3- Cartographic Techniques

- i) Distinguish between various types of maps and also appreciate the elements of map;
- ii) Appreciate how projections are applied to prepare maps from the globe;
- iii) Acquire knowledge to prepare maps from geographic data and also the ability to interpret them.

4. CC4-GE4- Environmental Geography

- i) Appreciate the structure and functions of ecosystems with examples;
- ii) Understand the environmental problems and relevant management strategies;
- iii) Acquire knowledge about the new environmental policies and the need to revise policies to tackle the environmental issues of India, in particular.

5. SEC-A1- Coastal management

- i) Understand the different components of a coastal zone and the role of morpho dynamic variables of coast
- ii) Impact on the environment of different activities like mining, oil exploration, salt manufacturing, tourism and its management
- iii) Understand coastal hazards and its management
- iv) Know about the Coastal Zone Management, Exclusive Economic Zone and Coastal Regulation Zone

6. DSE-A1- Regional Development

- i) Understand and identify regions as an integral part of geographical study.
- ii) Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.
- iii) Analyzing the concept of regions and regionalization.
- iv) Studying typical physiographic, planning, arid and biotic regions of India. Understanding the detailed geography of India.

- v) Gain knowledge about definition of region, evolution and types of regional planning. Develop an idea about choice of a region for planning.
- vi) Build an idea about theories and models for regional planning. Know about measuring development indicators.

7. DSE-B4-Population Geography

- i) Understand development of population Geography, Population distribution and its distribution.
- ii) Know population composition.
- iii) Comprehend migration and its national and international pattern of migration with reference to India
- iv) Understand population policies of developed and less developed countries and India's population policies.
- v) Know the contemporary issues namely ageing population, declining sex ratio etc.

PROGRAM OUTCOMES

1. To understand the scope and evolution of the diverse discipline of Geography.
2. Recognize, synthesize and evaluate diverse sources of knowledge, arguments and approaches pertinent to exploring human-environment problems. Explain societal relevance of geographical knowledge and apply it to real world human-environment issues.
3. Appreciate and reflect critically on the importance of holistic and interpretative human-environment perspectives.
4. An understanding and acknowledgment of the threats that endanger the earth's natural systems. This helps in further realization of the significance of anthropogenic causes of many of the disasters and threats that puts life on this planet on the edge.
5. Development of knowledge, skills and holistic understanding of the discipline among students. Encouragement of scientific mode of thinking and scientific method of enquiry in students. This goal is achieved through the regular field excursions conducted by the Department to various parts of India extensively and the writing of a report/thesis on it.
6. Students become equipped with the ability to respond to both natural and man-made disasters and acquire management skills. This is attained through the curriculum by studying and analyzing hazards, disasters, their impact and management.
7. Ability to undertake research in interdisciplinary studies and problems or issues beyond the realm of what strictly comes under the purview of geography. This is possible because of the varied nature of the curriculum that encompasses the study and analyses of concepts of sub-disciplines and allied disciplines of Geology, Seismology, Pedology, Hydrology, Environmental Studies, Disaster Management, Resource Management and Conservation, Regional Planning and Development Studies etc.

PROGRAMME OUTCOME

The course under CBCS PHYSICS program provides the students the understanding of physical principals of the universe in a few selective area to help them to develop critical thinking and quantitative reasoning skills. It empowers them to think creatively and critically about scientific problems and experiments and to train them in planning their carriers in physics or physical science.

After successful completion he may choose teaching as profession, research for further acquisition of knowledge or industrial job for his livelihood. As they earn a good communication skill and a reliable writing skill during their stay so they may also choose government or private executive jobs after the completion of their course.

After extending their carrier from some management institute they may become an entrepreneur to start their own business. Also they may extend their carrier in data science where a huge number of jobs are waiting for them.

PHYSICS

Course outcome:

Purash KanpurHaridas Nandi Mahavidyalaya,Howrah offers General Program in Physics under CBCS. Under this program they have to learn

- a) Four Core Course (CC/General Elective(GE))
- b) Four SEC(Skill Enhancement Course)
- c) Two D S E (Discipline Specific elective Papers) in three years .The courses are distributed in six semesters. Students' progress is evaluated after each semester end examination. The semester wise distribution of papers along with a brief outcome is as follows.

SEMESTER 1:

1. To build up mathematical foundation, following courses are offered
 - a) Vector algebra:

- b) Vector Analysis:
- c) Ordinary Differential equations.

2. To account with Newtonian Mechanics an introductory level course is offered in two segments

a) Laws of motion:

b) Work Energy theorem

3. Rotational motion related rules which mainly dealing with rigid body is discussed

4. To learn the motion of particle under central force field, Kepler's Laws and Newton's laws of gravitation along with a brief discussion on geo stationary satellite and GPS.

5. To learn different kind of oscillations like SHM, forced oscillation and damped oscillation.

6. To study general properties of matter in two distinct form course offered Elasticity for Solid and Surface Tension and viscosity of liquid in the Syllabus.

Practical:

1. To Practice how to determine how to measure Moment of Inertia
2. To practice how to measure Young's Modulus Y
3. To practice how to measure Rigidity modulus of a wire
4. To practice how to measure Moment of Inertia of a Fly Wheel.
5. To practice how to measure gravitational acceleration g using bar pendulum,

SEMESTER II(CC2/GE2)

1. To learn Electrostatics field inside conductors, inside insulators, basic characteristics of electrostatic field intensity and potential of point charge, charged spherical cell, solid sphere, plane charged sheet, charged conductor.
2. To learn properties of magnetism and magnetic field inside matter.
3. To study the cause and effect of Electromagnetic induction.
4. To study the electrical analysis of linear Network of different combinations.
5. To study Maxwell equation and to learn the origin of Electromagnetic waves and its properties.

Practical:

1. To mastered the technique of measuring resistance by Carey Foster method.

2. To learn practically how to measure current flowing through a register using potentiometer.
3. To practice the technique to determine of the horizontal component of earth magnetic field at a place on earth.
4. To develop the practical knowledge on how to convert an ammeter to voltmeter,
5. To develop a skill on how to convert a voltmeter to an ammeter.

SEMESTER III(CC3/GE3)

1. To study the laws of Thermodynamics
2. To learn thermodynamical potentials and their relations.
3. To learn Kinetic theory of gases.
4. To be acquainted with theory of radiation
5. To study statistical mechanics.

Practical

1. How to measure coefficient of thermal expansion of a metallic rod using optical lever.
2. To verify Stefan's Law of radiation.
3. To determine thermal capacity of a bad conductor by Lees Disc method.
4. To determine thermal coefficient of resistance using Carey Forster bridge.
5. To learn how to measure pressure coefficient of air using Jolly's apparatus.

SEMESTER III

SEC A-2

RENEWABLE ENERGY:

1. To learn the why we need Alternate Sources of energy and to study about the following form of Energies
 - a)Solar Energy.
 - b)Wind Energy
 - c)Ocean Energy
 - d)Geo thermal Energy.
 - e)Hydro Energy
 - f) Piezoelectric Energy Harvesting

g) Electromagnetic energy Harvesting

h) Fuel cell

SEMESTER 4 (CC-4/GE-4)

1. A brief review of their past study on acoustics and waves.
2. To work out the effect of superposition of vibrations
3. To study the vibrations in string
4. To introduce the student to wave optics
5. To learn the effect of interference of waves
6. To learn different types of diffraction of waves and their uses in the measurement of different physical parameters.
7. To study the polarization properties of waves.

Practical

1. To learn how to determine the of Focal length of concave lens.(Auxiliary lens method)
2. How to determine the frequency of a tuning fork.(by Sonometer)
3. How to measure the radius of curvature of a plano convex lens
4. Measurement of a specific rotation of active solution (suger solution)by Polarimeter.

SEC- B2 (Knowledge Skill)

Electrical Circuit and network skills (Theory)

To study the following instruments.

- a) DC generator
- b) Transformer.
- c) AC motor.

Measurements and detection of faults of the above instruments.

SEMESTER V

DSE A, SEC A (Same as Semester 3)

5.1 Analog Electronics,

1. To study Circuit and network theorem.
2. Know the theory and application of the following diods
 - a) P-N Semiconductor diodes

- b) LED
- c) Photo diodes
- d) Solar cell

3. To learn about regulated Power Supply
4. To study about field effect Transistors
5. To mastered on operational amplifier.
6. To collect knowledge on oscillators.

Practical:

1. How to Verify Thevenin and Norton's Theorem, superposition theorem and maximum power transfer theorem.
2. How to Study the emitter characteristics of a Photo Transistor illuminated by LED.
3. To study the characteristics of a transistor in a CE configuration.
4. How to design a regulated power supply using LM 317 IC
5. How to design an inverting, non-inverting amplifier ,adder and subtractor using

SEMESTER VI

DSE B, SEC B(Same as Semester4)

DSE B(1)

6.1 DIGITAL ELECTRONICS Theory)

1. To Learn Integrated circuit.
2. To study on Number system
3. To learn on digital circuits
4. To study Data Processing circuits
5. To study sequential Circuits.
6. To study on Registers and Counters.

PRACTIALS:

1. To verify and design AND,OR,NOT and XOR gates using NAND/NOR gates

2. To construct a half adder, and a full adder using NAND gates
3. To construct a SR and D FF circuits using NAND Gates.
4. How to design a 4 bit shift registers(Serial and parallel)using D type FF IC7476
5. How to construct a 4x1 Multiplexer using IC 74151

Course Outcome for B.Sc. (Hons.) Mathematics

The learning outcomes of mathematics for B.Sc. (Hons) are aimed at facilitating the learners to acquire knowledge, understanding, skills, attitudes, values and academic achievements, keeping in view of their preferences and aspirations for knowledge of mathematics. Mathematics is the study of quantity, structure, space and change. It has very broad scope in science, engineering and social sciences. The key areas of study in mathematics are Calculus, Algebra, Geometry, Analysis, Differential Equations and Mechanics.

Programme Specific Outcome of B.Sc. (Hons) Mathematics

- Think in a critical manner.
- Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
- Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of mathematics and statistics.
- Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.
- Encourage the students to develop a range of generic skills helpful in employment, internships and social activities.

Bachelor's degree in mathematics is the culmination of in-depth knowledge of algebra, real analysis, calculus, geometry, differential equations and several other branches of mathematics. This also leads to study of related areas like computer science, Financial Mathematics, statistics and many more. Thus, this programme helps learners in building a solid foundation for higher studies in mathematics. The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning. This can be utilized in modelling and solving real life problems. Students undergoing this programme learn to logically question assertions, to recognize patterns and to distinguish between essential and irrelevant aspects of problems. They also share ideas and insights while seeking and benefitting from knowledge and insight of others. This helps them to learn behave responsibly in a rapidly changing interdependent society. Students completing this programme will be able to present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians. Completion of this programme will also enable the learners to join teaching profession in primary and secondary schools. This programme will also help students to enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.

Course Learning Outcomes:

SEMESTER-I

CC-1: Calculus, Geometry & Vector Analysis:

This course will enable the students to:

- i) Assimilate the notions of limit of a sequence and convergence of a series of real numbers.
- ii) Calculate the limit and examine the continuity of a function at a point.
- iii) Understand the consequences of various mean value theorems for differentiable functions.
- iv) Sketch curves in Cartesian and polar coordinate systems.
- v) Apply derivative tests in optimization problems appearing in social sciences, physical sciences, life sciences and a host of other disciplines.

CC-2: Algebra:

After the completion of the course, Students will be able to

- i) Find the inverse of a square matrix.
- ii) Solve the matrix equation $Ax = b$ using row operations and matrix operations.
- iii) Find the determinant of a product of square matrices, of the transpose of a square matrix, and of the inverse of an invertible matrix
- iv) Find the characteristic equation, eigenvalues and corresponding eigenvectors of a given matrix.
- v) Determine if a given matrix is diagonalizable.

SEMESTER-II

CC-3: Real Analysis:

This course will enable the students to:

- i) To study various types of intervals, sets and relations, and concept of countable and uncountable.
- ii) 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} .
- iii) Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.
- iv) To study concept of sequence and series and hence find sum of infinite terms with different methods.
- v) Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.

CC-4: Group Theory-I:

The course will enable the students to:

- i) Recognize the mathematical objects called groups.

- ii) Link the fundamental concepts of groups and symmetries of geometrical objects.
- iii) Explain the significance of the notions of cosets, normal subgroups, and factor groups.
- iv) Analyze consequences of Cayley's theorem.
- v) Learn about structure preserving maps between groups and their consequences.

SEMESTER-III

CC-5: Theory of Real Functions:

The course will enable the students to:

- i) Use rules of limits.
- ii) Evaluate limits algebraically by means of substitution, factoring, and using special limits.
- iii) Use limits to determine whether a function is continuous at a point.

CC-6: Ring Theory & Linear Algebra-I:

This course will enable the students to:

- i) To study the algebraic structure Ring in detail through various examples.
- ii) To learn the construction of field of quotients of an integral domain.
- iii) To study the Rings of polynomials and its factorization over a field.
- iv) To study the notion of ideals and factor rings with examples.
- v) Understand the concepts of vector spaces, subspaces, bases, dimension and their properties.
- vi) Relate matrices and linear transformations, compute eigen values and eigen vectors of linear transformations.

CC-7: Ordinary Differential Equation & Multivariate Calculus-I:

This course will enable the students to:

- i) Understand the genesis of ordinary differential equations.
- ii) Learn various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order.
- iii) Know Picard's method of obtaining successive approximations of solutions of first order differential equations, passing through a given point in the plane and Power series method for higher order linear equations, especially in cases when there is no method available to solve such equations.
- iv) Grasp the concept of a general solution of a linear differential equation of an arbitrary order and also learn a few methods to obtain the general solution of such equations.
- v) Formulate mathematical models in the form of ordinary differential equations to suggest possible solutions of the day to day problems arising in physical, chemical and biological disciplines.
- vi) Learn conceptual variations while advancing from one variable to several variables in calculus.
- vii) Apply multivariable calculus in optimization problems.

SEC-A: C Programming Language:

This course will enable the students to:

- i) Read, understand and trace the execution of programs written in C language.
- ii) Develop logics which will help them to create programs, applications in C.
- iii) Write the C code for a given algorithm.
- iv) Write programs that perform operations using derived data types.
- v) Switch over to any other language in future by learning the basic programming.

SEMESTER-IV**CC-8: Riemann Integration & Series of Functions:**

This course will enable the students to:

- i) Learn about Riemann integrability of bounded functions and algebra of R-integrable functions.
- ii) Prove theorems on different test of convergence and divergence of a series of positive terms.
- iii) Verify the given series is convergent or divergent by using different test.
- iv) Learn to evaluate the Fourier series of various even and odd functions.

CC-9: Partial differential equation & Multivariate Calculus-II:

The course will enable the students to:

- i) Apply a range of techniques to solve first & second order partial differential equations.
- ii) Model physical phenomena using partial differential equations such as the heat and wave equations.
- iii) Learn conceptual variations while advancing from one variable to several variables in calculus.
- iv) Inter-relationship amongst the line integral, double and triple integral formulations.
- v) Realize importance of Green, Gauss and Stokes' theorems in other branches of mathematics.

CC-10: Mechanics:

This course will enable the students to:

- i) Familiarize with subject matter, which has been the single centre, to which were drawn mathematicians, physicists, astronomers and engineers together.
- ii) Understand necessary conditions for the equilibrium of particles acted upon by various forces and learn the principle of virtual work for a system of coplanar forces acting on a particle.
- iii) Determine the centre of gravity of materialistic systems and discuss the equilibrium of a uniform cable hanging freely under its own weight.

- iv) Deal with the kinematics and kinetics of the rectilinear and planar motions of a particle including the constrained oscillatory motions of particles.
- v) Learn that a particle moving under a central force describes a plane curve and know the Kepler's laws of the planetary motions, which were deduced by him long before the mathematical theory given by Newton.

SEC-B: Mathematical Logic:

This course will enable the students to:

- i) Learn the syntax of first-order logic and semantics of first-order languages.
- ii) Understand the propositional logic and basic theorems like compactness theorem, meta theorem and post-tautology theorem.
- iii) Assimilate the concept of completeness interpretations and their applications with special emphasis on applications in algebra.

SEMESTER-V

CC-11: Probability & Statistics:

This course will enable the students to:

- i) Understand distributions in the study of the joint behaviour of two random variables.
- ii) Establish a formulation helping to predict one variable in terms of the other that is, correlation and linear regression.
- iii) Understand central limit theorem, which establish the remarkable fact that the empirical frequencies of so many natural populations, exhibit a bell shaped curve.

CC-12: Group Theory-II & Linear Algebra-II:

This course will enable the students to:

- i) Determine the automorphosim group of any cyclic group.
- ii) Prove Lagrange's theorem, Cauchy's theorem for finite abelian group.
- iii) Understand fundamental theorem of finite abelian groups.
- iv) Learn properties of inner product spaces and determine orthogonality in inner product spaces.
- v) Learn Gram-Schmidt process of orthogonalization.
- vi) Realise importance of adjoint of a linear transformation and its canonical form.
- vii) Get well equipped with Mathematical Modelling abilities.

DSE-A(1): Advanced Algebra:

This course will enable the students to:

- i) Understand the basic concepts of group actions and their applications.
- ii) Recognize and use the Sylow theorems to characterize certain finite groups.
- iii) Know the fundamental concepts in ring theory such as the concepts of ideals, quotient rings, integral domains, and fields.

- iv) Learn in detail about polynomial rings, fundamental properties of finite field extensions, and classification of finite fields.

DSE-B(1): Linear Programming & Game Theory:

This course will enable the students to:

- i) Analyze and solve linear programming models of real life situations.
- ii) Provide graphical solutions of linear programming problems with two variables, and illustrate the concept of convex set and extreme points.
- iii) Understand the theory of the simplex method.
- iv) Know about the relationships between the primal and dual problems, and to understand sensitivity analysis.
- v) Learn about the applications to transportation, assignment and two-person zero-sum game problems.

SEMESTER-VI

CC-13: Metric Space & Complex Analysis:

This course will enable the students to:

- i) Learn basic facts about the cardinality of a set.
- ii) Understand several standard concepts of metric spaces and their properties like openness, closedness, completeness, Bolzano-Weierstrass property, compactness, and connectedness.
- iii) Identify the continuity of a function defined on metric spaces
- iv) Visualize complex numbers as points of \mathbb{R} and stereographic projection of complex plane on the Riemann sphere.
- v) Understand the significance of differentiability and analyticity of complex functions leading to the Cauchy Riemann equations.
- vi) Learn the role of Cauchy Goursat theorem and Cauchy integral formula in evaluation of contour integrals.
- vii) Apply Liouville's theorem in fundamental theorem of algebra.
- viii) Understand the convergence, term by term integration and differentiation of a power series.
- ix) Learn Taylor and Laurent series expansions of analytic functions, classify the nature of singularity, poles and residues and application of Cauchy Residue theorem.

CC-14: Numerical Methods:

This course will enable the students to:

- i) Understand the theoretical and practical aspects of the use of numerical methods.
- ii) Obtain numerical solutions of algebraic and transcendental equations.
- iii) Find numerical solutions of system of linear equations and check the accuracy of the solutions.
- iv) Learn about various interpolating and extrapolating methods.
- v) Solve initial and boundary value problems in differential equations using numerical methods.
- vi) Apply various numerical methods in real life problems.

vii) Use mathematical libraries for computational objectives.

DSE-A(2): Mathematical Modelling:

This course will enable the students to:

- i) Create mathematical models of empirical or theoretical phenomena in domains such as the physical, natural, or social science;
- ii) Create variables and other abstractions to solve college-level mathematical problems in conjunction with previously-learned fundamental mathematical skills such as algebra;
- iii) Draw inferences from models using college-level mathematical techniques including problem solving, quantitative reasoning, and exploration using multiple representations such as equations, tables, and graphs;
- iv) Take an analytical approach to problems in their future endeavours.

DSE-B(2): Point Set Topology:

This course will enable the students to:

- i) Explore the foundations of mathematics at a level and depth appropriate to study higher-level mathematics and/or to become a professional mathematician.
- ii) Present an introduction to the field of topology, with emphasis on those aspects of the subject that are basic to higher mathematics.
- iii) What it means to do mathematics, as opposed to learning about mathematics or to learning to do computational exercises.
- iv) Learn how to write mathematical text according to the standards of the profession.

CHEMISTRY COURSE AND PROGRAMME OUTCOMES

Course outcomes

Purash-Kanpur Haridas Nandi Mahavidyalaya, Howrah offers general programme in Chemistry under CBCS of Calcutta University. A student needs to study four core courses (CC)/ general elective (GE), two discipline specific elective papers (DSE), and four skill enhancement courses (SEC) in three years and to be evaluated in six semester-end examinations. The semester-wise distribution of papers along with brief course specific outcomes are described below. Overall programme outcomes have been stated at the end.

SEMESTER – I

Outcomes of Course Code CC1/GE1:

- 1) To learn basics of atomic structure including distribution of electrons in different quantum levels
- 2) To learn chemical periodicity and some fundamental periodic properties of the elements that help understanding properties and mechanisms of chemical reactions
- 3) To study kinetic theory of gases and physical properties of liquids
- 4) To learn chemical kinetics and different progression of reaction in terms of mechanism
- 5) To study properties of different acids and bases and their reactions
- 6) To learn fundamentals of organic chemistry like different types of carbon-carbon bonds, hybridization, and reactivity
- 7) To study basic stereochemistry like different types of geometric and stereo-isomers
- 8) To learn nucleophilic substitution and elimination reactions in organic chemistry

Hands on practices:

- 1) To practice estimation of percentage of Na_2CO_3 and NaHCO_3 in a mixture
- 2) To practice estimation of oxalic acid and Mohr's salt in separate solutions by using KMnO_4
- 3) To practice estimation of Fe(II) by $\text{K}_2\text{Cr}_2\text{O}_7$, Cu(II) using $\text{Na}_2\text{S}_2\text{O}_3$ in separate solutions
- 4) To practice estimation of Fe(II) and Fe(III) in a solution using $\text{K}_2\text{Cr}_2\text{O}_7$

SEMESTER - II

Outcomes of Course Code CC2/GE2:

- 1) To learn and understand chemical thermodynamics and chemical equilibrium; solutions and phase equilibria and solids
- 2) To learn aliphatic hydrocarbons in terms of their preparations, characteristics and reactions
- 3) To learn error analysis, basic of statistics and computer applications in chemical sciences
- 4) To learn redox different systems and reactions

Hands on practice

- 1) To study through experiment kinetics of acid-catalyzed hydrolysis of methyl acetate
- 2) To study through experiment kinetics of H_2O_2 decomposition
- 3) To study through experiment viscosity of some unknown liquid and solutions
- 4) To determine surface tension of a liquid using stalagmometer

- 5) To determine solubility product of sparingly soluble salt
- 6) To practice preparing buffer solutions and find pH of an unknown solution

SEMESTER – III

Outcomes of Course Code CC3/GE3:

- 1) To learn different types of chemical bondings and understand molecular structure according to valence-bond theory and molecular orbital theory of some simple molecules
- 2) To make comparative study on electronic configuration, physical properties and several basic and fundamental periodic properties and aspects of p-block elements and transition elements
- 3) To learn coordination chemistry like secondary bonding, orientation of ligands and related isomerism
- 4) To learn topics in electrochemistry as ionic equilibrium, conductance and electromotive force of dilute solutions
- 5) To study preparations, characteristics and reactions of some preliminary aromatic hydrocarbons, organometallic compounds and aryl halides

Hands on practices

To practice semi-micro qualitative analysis of some cations and anions in salt/salt mixture

Outcomes of Course Code SEC-A1:

- 1) To learn basics of analytical chemistry and practices and their application in chemical analysis
- 2) To learn analysis of soil, water and food products
- 3) To learn analytical methods like chromatography, and instrumental methods flame photometry and spectrophotometry

SEMESTER – IV

Outcomes of Course Code CC4/GE4:

- 1) To study different types of alcohols, phenols and ethers in terms of their preparations, characteristics and reactions; to study different types of carboxylic acids and their derivatives; amines and their derivatives; amino acids and their derivatives; carbonyl compounds – mainly their preparation, characteristics and reaction will be studied
- 2) To learn crystal field theory of coordination compounds, quantum chemistry and basic theory of spectroscopy and its applications

Hands on practices

- 1) Qualitative analysis of solid organic sample for determining presence of special elements and functional groups
- 2) To identify pure organic compound

Outcomes of Course Code SEC-B1:

- 1) To study basic pharmaceutical chemistry such as synthesis of some general drugs and their chemical reaction and mechanisms of actions
- 2) To study fermentation process and its application in drug synthesis

SEMESTER – V

Outcomes of Course Code DSE-A1:

- 1) To study some novel Inorganic Solid – in terms of their nomenclature, types, synthesis and properties
- 2) To study types, compositions and properties of composite materials
- 3) To study preparation and structure of some specialty polymers

Outcomes of Course Code DSE-A2:

- 1) To study some Inorganic materials of industrial importance such as glass, ceramics, and cements in terms of their structure, preparation and applications
- 2) To study different types of surface coatings, batteries, alloys and catalysts

Outcomes of Course Code SEC-A2:

- 1) To learn about Analytical Clinical Biochemistry such as study properties and estimation of sugar, lipids, proteins and other biological compounds
- 2) To learn biochemistry of diseases – mainly diagnostic approach through blood and urine analysis of some essential parameters

SEMESTER – VI

Outcomes of Course Code DSE-B1:

- 1) To learn Green Chemistry as principles and designing of synthesis through green route
- 2) To study chemistry such as basic structure and properties of natural products such as alkaloids, terpenes etc. preparations of their derivatives and properties

Outcomes of Course Code DSE-B2:

- 1) To learn different spectrophotometric methods of analysis in chemical analysis, sampling and data validation, like UV-VIS spectroscopy, IR spectroscopy, flame photometry, atomic absorption and emission spectrometry
- 2) To learn thermal methods of analysis, electroanalytical methods of analysis and different separation technology such as chromatography
- 3) To study different principles of separation, e.g. solvent extraction, chromatography and stereoisomeric.

Hands on practices:

- 1) To practice Paper chromatography of some monosaccharide mixture, dye, ingredients in plant, flowers and juice
- 2) To practice analysis of soil like its pH, Ca, Mg and phosphate in it
- 3) To determine exchange capacity of resins
- 4) To determine pKa values spectrophotometrically, CoD and BoD

Outcomes of Course Code SEC-B2:

- 1) To learn about natural and synthetic pesticides, benefits and their adverse effects, changing concepts of pesticides
- 2) To study manufacturing and uses of some pesticides e.g., DDT, Gammexene, malathion, chloranil, alachlor and butachlor, etc.

Hands on practices

- 1) To calculate acidity/alkalinity in given pesticides samples as per BIS standard
- 2) Preparations of simple organophosphates, phosphonates and thio phosphates

PROGRAMME OUTCOME

The courses under Chemistry Programme provide basic and fundamental knowledge in various branches of chemistry as well as information in the advanced and applied field of the subject at undergraduate level. Its outcomes encompasses academic, professional, industry as well as research sectors.

A students after successful completion of the programme will be able to teach chemistry in schools. At the same time one will be able to continue in higher study with chemistry after completing programme in chemistry. Being a multidisciplinary subjects one can compete for joint entrance for studying Biotechnology, Pharmacology, Food Technology, Jute Technology and MCA .

After studying Chemistry General programme that is offered here, one can take the Chemistry subject as a paper in competitive examinations for services, like IAS, WBCS, IFS, IPS, SSC etc. to score better marks.

By learning various lessons in analytical chemistry one can work as chemical analyst in different production companies like drugs and pharmaceuticals, paints, cosmetics, food processing, etc.

Knowledge and skill acquired in analytical clinical biochemistry enable ones to fetch jobs in clinics, hospitals, and related health service establishments.

By studying courses in basic biochemistry one can pursue career in biotechnology and medicine after clearing joint entrance.

The syllabi of Chemistry even in Undergraduate programme courses of Calcutta University is considered to in advanced level. Chemistry is multidisciplinary subject. It's different branches have considerably extended applications in almost all sphere of life in the present time. The envisaged outcomes of Chemistry programme may also be at par – no less than as discussed above.

Department of Commerce :Course Outcomes: Class: B. Com. Semester I

- 1) **Financial Accounting** To develop conceptual understanding of fundamentals of financial Accounting system and to impart skills in accounting for various kinds of business transactions.
- 2) **Principles of Management:** To know to make planning, decision making, controlling, staffing, organizing etc. to understand new approaches in management
- 3) **Business Communication** To develop communication skills and overall personality development of the students
- 4) **Microeconomics** :The objective of this course is to acquaint the students with the business economic principles as are applicable in business
- 5) **Statistics** :The objective of this course is to provide fundamental basic Knowledge of statistics techniques as applicable to business.
- 6) **Business Laws** This Course is designed to help Students to Learn and develop understanding of the necessary framework of Indian Business Laws.

Department of Commerce :Course Outcomes: Class: B. Com. Semester II

- 1) **E-Commerce:** To understand e-commerce strategies and applications, including online marketing, CRM and global e-commerce.
- 2) **Business Communication:** To develop communication skills and overall personality development of the students
- 3) **Company Law:** To acquire knowledge and develop understanding of the necessary framework of companies with reference to various provisions of Companies Act-2013
- 4) **Marketing Management:** Objective of this Course is to provide a sound understanding of the basic principles of Marketing Management and their applications in the business & industry.
- 5) **Human Resource Management:** Objective of this Course is to provide a sound understanding of the basic principles of Human Resource Management and their applications in the business & industry.
- 6) **Cost & Management Accounting:** To understand knowledge of cost accounting, single output costing, material cost, labour cost and overhead.

Department of Commerce :Course Outcomes: Class: B. Com. Semester III

- 1) **Information Technology:** To provide a basic knowledge about computer-both hardware and software and its application in business.
- 2) **Business Mathematics & Statistics** : To provide a basic knowledge about Mathematical and Statistical Tools and its application in business.
- 3) **Financial Accounting:** To provide advanced understanding of fundamentals of financial Accounting system and to impart skills in accounting for various kinds of business transactions.
- 4) **Indian Financial System:** To provide understanding of fundamentals of Indian financial system .

Department of Commerce :Course Outcomes: Class: B. Com. Semester IV

- 1) **Microeconomics & Indian Economy:** The objective of this course is to acquaint the students with the business economic principles as are applicable in business and also about the Indian Economic Problem and Achievements.
- 2) **Entrepreneurship Development & Business Ethics:** To provide understanding of fundamentals of Entrepreneurship Development and how to follow Business Ethics in Business.

- 3) **Taxation:** To give knowledge of direct and indirect tax in the Indian Tax Structure.
- 4) **Cost & Management Accounting:** The objective of the course is to equip the students with the ability to analysis interpret and use accounting information in managerial decision making. The student is expected to have a good working knowledge of the subject. This course provides the students an understanding of the application of accounting techniques for management.

Department of Commerce :Course Outcomes: Class: B. Com. Semester V

- 1) **Auditing and Assurance:** To develop the accounting knowledge and its application in different fields also to develop practical knowledge of auditing
- 2) **Taxation:** To provide knowledge about the GST , Advance Tax, TDS, Return Filing etc.
- 3) **Macroeconomics:** The objective of this course is to acquaint the students with the business economic principles as are applicable in business at the Macro level.
- 5) **Advanced Business Mathematics:** To provide a advanced knowledge about Mathematical Tools and its application in business.
- 6) **Corporate Accounting:** To understand knowledge of new trends in corporate accounting issue of share , redemption shares, valuation of goodwill and shares and preparation of Financial Statements as per new Schedule.

Department of Commerce :Course Outcomes: Class: B. Com. Semester VI

- 1) **Computerised Accounting and e- Filing of Tax Returns:** To develop the computerized accounting knowledge and its application in different fields also to develop practical knowledge of e-filing of tax returns.
- 2) **Project Work:** To visit different business units and improve the practical business knowledge among the students and to make them learn the art of preparing project report.
- 3) **Financial Reporting and Financial Statement Analysis:** To develop the art of financial reporting and to develop knowledge regarding the interpretation of financial statements through ratio analysis, cash flow statement, trend analysis , common size income statement etc.
- 4) **Financial Management:** To develop the Financial Management knowledge and its application in different fields also to develop practical knowledge of Financial Management.

Department of Commerce : B. Com. Programme Outcome

To impart the various skills like accounting skills managerial skills communication skills and overall personality development of the students, also to make the students competent to face the challenges in present competitive market acquaint the students relating to changes in global scenario besides this the theoretical concepts and its application into the business. To develop among the students the qualities of an entrepreneurship also to give the ideas about the modern business strategies. Apart from this to provide the ideas relating to various fields like banking sector, insurance sector, Income Tax, e-commerce in addition to this give the knowledge about Indian economy.