# COURSE OUTLINES

Taking care of process takes care of the outcomes

**SUBJECT: ENGLISH**

<table>
<thead>
<tr>
<th>NAME OF THE UNIT/CONCEPT/SKILLS</th>
<th>ENDURING UNDERSTANDING FOR THE UNIT</th>
<th>LEARNING TARGETS</th>
<th>START DATE (dd/mm/yyyy)</th>
<th>END DATE (dd/mm/yyyy)</th>
<th>REQUIRED NUMBER OF DAYS</th>
</tr>
</thead>
</table>
| **Classified and Commercial Ads (Advanced Writing Skills)**  
  Short Composition | Students communicate information about a product, event or service concisely and as effectively as possible so as to showcase a product. They are able to explain the use of Propaganda Techniques in Advertisements. | 1. Display awareness about the format and writing style of classified and display advertisements.  
  2. Implement and execute formal conventions. | 12.2.2020 | 19.2.2020 | 5 |
| **Notice Writing (Advanced Writing Skills)**  
  Short Composition | Students are aware about formal language as used in official communications. They are aware about the need for brevity in official communications. They are aware of and recognize the different forms of Notices and their uses. | 1. Draft Notices according to the information given.  
  2. Integrate various value points and information in a concise manner.  
  3. Write notices in the given format and within the specified word limit | 20.2.2020 | 24.2.2020 | 2 |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Assignment Details</th>
<th>Dates</th>
</tr>
</thead>
</table>
| **My Mother at Sixty Six (Poem)**            | Students appreciate poetry as a means for highlighting the pain of separation from the near and dear ones and the necessity to understand and accept such losses in life. | 1. Provide strong textual evidence in support of assumptions, arguments and observations.  
2. Identify, analyze and explain important metaphors, symbols and figures of speech and techniques like Enjambment that help to convey an idea, thought or theme. | 25.2.2020 27.2.2020 3 |
| **The Last Lesson** (Literature) Reading Skills | Students identify important themes in a prose lesson and link them to everyday life. | 1. Explain and critique the role of language as a binding factor.  
2. Identify and critique the central theme (Linguistic Chauvinism). | 28.2.2020 4.3.2020 3 |
| **Letter of Enquiry** (Advanced Writing Skills) Long Composition | Students write a letter in the accepted format to make enquiries about information about products, courses, railway reservations and hotel room vacancies. | 1. Identify the parts of a formal/official letter and explain their function.  
2. Write in a formal register. | 5.3.2020 6.3.2020 2 |
| **Reply to letter of Enquiry** (Advanced Writing Skills) Long Composition | Students write a letter in the accepted format to provide information for letters of enquiry. They provide information in a lucid and clear manner. | 1. Identify the parts of a formal/official letter and explain their function.  
2. Write in a formal register. | 9.3.2020 9.3.2020 1 |
| **Lost Spring** (Prose) Reading Skills | Students identify important themes in a prose lesson and link them to everyday life. | 1. Explain and critique the role of language as a binding factor.  
2. Identify and critique the central theme (Linguistic Chauvinism). | 11.3.2020 16.3.2020 4 |
| **Aunt Jennifer’s** | Students identify | 1. Explain and critique the role of language as a binding factor.  
2. Identify and critique the central theme (Linguistic Chauvinism). | 17.3.2020 19.3.2020 3 |

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| **Tigers** (Poem)  
Reading Skills/Skills of Interpretation | important themes in a prose lesson and link them to everyday life. | language as a binding factor.  
2. Identify and critique the central theme (Linguistic Chauvinism). |
|---|---|---|
| **The Third Level**  
(Literature)  
Reading Skills | Students Critique Science fiction as a genre of expression. | 1. Analyze the central theme of a prose piece and link it to everyday life.  
2. To draw character sketches of the characters in the prose piece.  
3. Create a story line for the plot with sequencing of events. |
| **An Elementary School Classroom in a Slum** (Poetry)  
Reading Skills/ Skills of Interpretation | Students appreciate poetry as a means for highlighting the impact of poverty on children. | 1. Provide strong textual evidence in support of assumptions, arguments and observations.  
2. Identify, analyze and explain important metaphors, symbols and figures of speech that help to convey an idea, thought or theme. |
| **Note Making and Summary Writing**  
(Reading and Comprehension Skills/Skills of Note Making and Summarizing main ideas of a piece of writing) | Students develop critical skills to identify key ideas in a passage. They summarize the key ideas in a concise manner. | 1. Read a passage to identify the key points and main ideas.  
2. List the key ideas and the supporting points in a linear order.  
3. Use notes to create a summary of the passage. |
| **Reading Comprehension**  
(Reading Skills - Skimming, Scanning, etc.) | Students develop different reading strategies based on the type of passage - descriptive, discursive, argumentative, etc. | 1. Develop different reading strategies, such as skimming and scanning, they develop skills in summarizing, inferring, comparing and drawing conclusions. |
| **On the Face of It**  
(Literature)  
Reading Skills | Students analyze Drama as an art from that can drive social and personal transformation. | 1. Cite examples and proof in support of their observations about the central theme in the play.  
2. Identify important events in the plot that prompt a process of transformation in the protagonist.  
3. Create accurate character sketches for the principal characters in the play. | 7.4.2020 | 13.4.2020 | 4 |
| **Keeping Quiet**  
(Poetry)  
Reading Skills/ Skills of Interpretation | Students appreciate poetry as a vehicle of change. | 1. Analyze a poem for its central theme, figures of speech and use of symbols to convey an idea, or a thought.  
2. To support one’s observations with suitable textual evidence. | 24.4.2020 | 29.4.2020 | 3 |
| **The Rattrap**  
(Literature)  
Reading Skills | Students critique the use of the story within a story, parables, allegories, and fables as genres that deliver a transformational message. | 1. Analyze critically a work of literature and can make connections with everyday life.  
2. Cite examples, quote lines and paraphrase from the text in support of their observations.  
3. Summarize processes and steps that brought about a transformation in the protagonist. | 30.4.2020 | 5.5.2020 | 4 |
| **Speech**  
(Advanced Writing Skills)  
Very Long Composition | Students use the conversational style in Debates and Speeches. They take a stance in a debate and form arguments in support of it. For the speech they adopt a more flexible | 1. Draft Debates that have a specific stance for or against the motion. Support stance with rational arguments.  
2. Draft Speeches to create awareness about social issues, good habits and health tips.  
3. Both debates and speeches | 6.5.20 | 8.5.20 | 2 |
<table>
<thead>
<tr>
<th>Approach</th>
<th>Deep Water (Literature) Reading Skills</th>
<th>The Tiger King (Literature) Reading Skills</th>
<th>Buffer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students analyze the Biography as a source of inspiration and a tool to help overcome handicaps in life. Students identify key self-help tips that helped the protagonist in overcoming his handicap.</td>
<td>1. Analyze critically a work of literature, and are able to make connections with everyday life. 2. Cite examples, quote lines and paraphrase from the text in support of their observations. 3. Students summarize processes and steps that brought about a transformation in the protagonist.</td>
<td>1. Analyze critically a work of literature, and are able to make connections with everyday life. 2. Cite examples, quote lines and paraphrase from the text in support of their observations. 3. Students summarize processes and steps that brought about a transformation in the protagonist.</td>
<td>1. To use accepted conventions and formats as per requirement. 2. To be able to switch formats, use precise language and domain specific vocabulary within a fixed word limit.</td>
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<tr>
<td>and Reply (Advanced Writing Skills)</td>
<td>Long Composition</td>
<td>formal register in the writing of formal letters. They are aware of the different aspects of the letter of complaint.</td>
<td>convey ideas, and present important information in a logical manner. 2. To be able to use a polite tone in drafting letters of complaint and reply to the letters of complaint.</td>
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<tr>
<td>Indigo (Literature) Reading Skills</td>
<td>Students are exposed to the biographical genre of writing to learn about a great thinker.</td>
<td>1. Students are able to analyze a prose piece to understand more about the Indian National Movement. 2. To read a biographical piece to learn about the character traits of a great thinker.</td>
<td>16.7.2020 22.7.2020 5</td>
</tr>
<tr>
<td>Letter – Placing an Order and Reply (Advanced Writing Skills)</td>
<td>Students communicate in an official/informal register using accepted formats and conventions for a letter.</td>
<td>1. To build up arguments, convey ideas, present important information in a logical manner. 2. To the accepted format, language, style to write formal and informal letters. 3. To identify the various elements of formal and informal letters.</td>
<td>23.7.2020 27.7.2020 3</td>
</tr>
<tr>
<td>Poets and Pancakes (Literature) Reading Skills</td>
<td>Student are exposed to Biography as a genre, they pick out important schools of thought that existed in the time about which the piece has been written</td>
<td>1. Analyze a work of literature for its theme, character portrayal, and plot movement. 2. Cite textual evidence in support of observations.</td>
<td>28.7.2020 5.8.2020 5</td>
</tr>
<tr>
<td>A Thing of Beauty (Poetry)</td>
<td>Students analyze poetry as an art form that can be</td>
<td>1. Identify figures of speech, symbols and themes in a</td>
<td>6.8.2020 10.8.2020 3</td>
</tr>
<tr>
<td>Reading Skills/ Skills of Interpretation</td>
<td>used to express hope in the midst of the stress of everyday life. They also critique how the poet uses the central theme of the poem to highlight the impact of marital discord.</td>
<td>poetry piece. 2. Support observations with evidence from the text.</td>
<td></td>
</tr>
</tbody>
</table>
| Article Writing  (Advanced Writing Skills)  
Very Long Composition | Students write a report (newspaper/magazine) in the accepted format to provide information. They provide facts in a lucid and clear manner. | 1. Use the accepted format, language, style to write the reports.  
2. Display awareness about use of the simple past tense while reporting events that have taken place. | 12.8.2020 | 14.8.2020 | 3 |
| Should Wizard Hit Mommy  (Literature)  
Reading Skills | Students review important themes as explored in works of literature. | 1. Analyze a work of literature for its theme, character portrayal, and plot movement.  
2. Cite textual evidence in support of observations. | 17.8.2020 | 19.8.2020 | 3 |
| A Roadside Stand  (Poetry)  
Reading Skills/ Skills of Interpretation | Students analyze poetry as an art form that can be used to express hope in the midst of the stress of everyday life. They also critique how the poet uses the central theme of the poem to highlight the impact of marital discord. | 1. To identify figures of speech, they are able to connect to the central theme of the poem.  
2. Students support their observations with evidence from the text. | 20.8.2020 | 24.8.2020 | 3 |
| Job Application and Bio Data  (Advanced Writing) | Students communicate in an official/informal register using accepted | 1. To build up arguments, convey ideas, present important information in a | 26.8.2020 | 27.8.2020 | 2 |
| Skills) | Long Composition | formats and conventions for a letter. | logical manner.  
2. To the accepted format, language, style to write formal and informal letters.  
3. To identify the various elements of formal and informal letters. |  |
|---|---|---|---|---|
| **The Enemy**  
(Literature)  
Reading Skills | Students review themes as explored in works of literature and comment on their relevance to everyday life. Students analyze the concept of prejudice and the true meaning of humanity | 1. Analyze a work of literature for its theme, character portrayal, and plot movement.  
2. Support observations with evidence from the text.  
3. List important events and turning points in the story. | 28.8.2020 | 2.9.2020 | 4 |
| **Report Writing**  
(Advanced Writing Skills)  
Very Long Composition | Students use the formal register for communication of information, ideas; to give suggestions and observations to a select audience. | 1. To identify the various elements of Report.  
2. To use the accepted format, language, style to write Newspaper/Magazine/Assembly Reports. | 3.9.2020 | 4.8.2020 | 2 |
| **Letter to the Editor**  
(Advanced Writing Skills)  
Long Composition | Students use the formal register for official communication of information, ideas; to give suggestions and observations to a select audience. | 1. To build up arguments, convey ideas, present important information in a logical manner.  
2. To use the accepted format, language, style to write formal and informal letters.  
3. To identify the various elements of formal and informal letters. | 7.9.2019 | 8.9.2019 | 2 |

**Half Yearly Exams**

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<table>
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<tr>
<th>Course</th>
<th>Description</th>
<th>Objectives</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Invitation Cards and Replies</td>
<td>Students use the formal register for official communication of information, ideas; to give suggestions and observations to a select audience.</td>
<td>1. To use accepted conventions and formats as per requirement. 2. To be able to switch formats, use precise language and domain specific vocabulary within a fixed word limit.</td>
<td>28.9.2020</td>
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<tr>
<td>(Advanced Writing Skills)</td>
<td></td>
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<td>30.9.2020</td>
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<tr>
<td>Short Composition</td>
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<tr>
<td>The Interview (Literature)</td>
<td>Students are exposed to the Interview as a genre of literature.</td>
<td>1. Students analyze a work of literature for its theme, character portrayal, and plot movement. 2. To cite textual evidence in support of assumptions, arguments and observations.</td>
<td>1.10.2020</td>
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<tr>
<td>Reading Skills</td>
<td></td>
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<td>7.10.2020</td>
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<tr>
<td>Journey to the End of the Earth</td>
<td>Students are exposed to adventure tourism and the travelogue as a genre.</td>
<td>1. To cite textual evidence in support of assumptions, arguments and observations.</td>
<td>8.10.2020</td>
</tr>
<tr>
<td>(Literature)</td>
<td></td>
<td></td>
<td>12.10.2020</td>
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<tr>
<td>Reading Skills</td>
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<td>3</td>
</tr>
<tr>
<td>Debate (Advanced Writing Skills)</td>
<td>Students use the conversational style in Debates and Speeches. They take a stance in a debate and form arguments in support of it. For the speech they adopt a more flexible approach whereby they can mix stances.</td>
<td>1. Draft Debates that have a specific stance for or against the motion. Support stance with rational arguments. 2. Draft Speeches to create awareness about social issues, good habits and health tips. 3. Both debates and speeches are written in a conversational style. They have an opening and a concluding sentence addressing the audience.</td>
<td>13.10.2020</td>
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<tr>
<td>Very Long Composition</td>
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<td>14.10.2020</td>
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<tr>
<td>Evans Tries his O</td>
<td>Students are exposed to</td>
<td>1. Students analyze a work of literature for its theme, character portrayal, and plot movement.</td>
<td>15.10.2020</td>
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<td>22.10.2020</td>
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| Level (Literature) Reading Skills | short stories that have multiple plot lines and multiple layers of interpretation. | literature for its theme, character portrayal, and plot movement.  
2. To cite textual evidence in support of assumptions, arguments and observations. |  |
|---------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|  |
| **Going Places** (Literature) Reading Skills | Students appreciate literature that deals with teenage problems related to day-dreaming and fantasizing. | 1. Students analyze a work of literature for its theme, character portrayal, and plot movement.  
2. To cite textual evidence in support of assumptions, arguments and observations. | 26.10.2020  29.10.2020  4 |
| **Informal Letter Writing & Letter to the Principal** (Advanced Writing Skills) Long Composition | Students use the formal register for official communication of information, ideas; to give suggestions and observations to a select audience. | 1. To build up arguments, convey ideas, present important information in a logical manner.  
2. To the accepted format, language, style to write formal and informal letters.  
3. To identify the various elements of formal and informal letters. | 30.10.2020  3.11.2020  3 |
| **Memories of Childhood** (Literature) Reading Skills | Students are exposed to writing for change, social activism as an important theme in literature. | 1. Students analyze a work of literature for its theme, character portrayal, and plot movement.  
2. To cite textual evidence in support of assumptions, arguments and observations. | 5.11.2020  10.11.2020  4 |
| **Invitation Letters and Replies (Revision)** | Students use the formal register for official communication of information, ideas; to give suggestions and observations to a select audience. | To use accepted conventions and formats as per requirement. To be able to switch formats, use precise language and domain specific vocabulary within a fixed word limit. | 11.11.2020  13.11.2020  3 |
## SUBJECT: PHYSICS

<table>
<thead>
<tr>
<th>UNITS</th>
<th>Enduring Understanding</th>
<th>Learning Outcomes</th>
<th>Start Date-end date</th>
<th>No of periods</th>
</tr>
</thead>
</table>
| **ELECTROSATATICS - Electric charge and field** | Matter is made of tiny particles called atoms. The transfer of electrons from atoms of one substance to another makes that substance charged. Electric force is a conservative force and is an example of action at a distance. Electric field lines are imaginary lines which are used to represent electric field in a region. Capacitors are the devices which are used to store electric energy. | Student will be able to  
(1) Define it in terms of the force on a test charge.  
(2) Describe and calculate the electric field of a single point charge.  
(3) Calculate the magnitude and direction of the electric field produced by two or more point charges.  
(4) Calculate the magnitude and direction of the force on a positive or negative charge placed in a specified field.  
(5) Interpret an electric field diagram.  
(6) Analyze the motion of a particle of specified charge and mass in a uniform electric field. | 13/2/20 - 18/2/20 | 18           |
| **ELECTROSATATICS - Electric potential and Potential Energy** |                                                                                      | Student will be able to  
(1) Define Electric potential.  
(2) Derive expressions for electric potential and potential difference due to a source charge.  
(3) Determine the direction and approximate magnitude of the electric field produced by a source charge. | 17/3/20 - 27/3/20 | 7            |
<table>
<thead>
<tr>
<th>ELECTROSTATICS - Gauss Theorem</th>
<th>Student will be able to</th>
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<tbody>
<tr>
<td></td>
<td>(1) State the law in integral form, and apply it qualitatively to relate flux and electric charge for a specified surface.</td>
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<tr>
<td></td>
<td>(2) Apply the law, along with symmetry arguments, to determine the electric field for a</td>
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<table>
<thead>
<tr>
<th>ELECTROSATATICS - Capacitance and Capacitors</th>
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</thead>
<tbody>
<tr>
<td>Planar, spherical, or cylindrically symmetric charge distribution.</td>
</tr>
<tr>
<td>(3) Apply the law to determine the charge density or total charge on a surface in terms of the electric field near the surface.</td>
</tr>
<tr>
<td>(4) The electric field of a straight, uniformly charged wire.</td>
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<tr>
<td>(5) The electric field and potential on the axis of a thin ring of charge, or at the center of a circular arc of charge.</td>
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<tr>
<td>(6) The electric potential on the axis of a uniformly charged disk.</td>
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<tr>
<td>(7) Oppositely-charged parallel plates.</td>
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<tr>
<td>(8) A long, uniformly-charged wire, or thin cylindrical or spherical shell.</td>
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Student will be able to:

1. Explain the mechanics responsible for the absence of electric field inside a conductor, and know that all excess charge must reside on the surface of the conductor.
2. Explain why a conductor must be an equipotential, and apply this principle in analyzing what happens when conductors are connected by wires.
3. Show that all excess charge on a conductor must reside on its surface and that the field outside the conductor must be perpendicular to the surface.
4. Students should be able to describe and sketch a graph of the electric field and potential inside and outside a charged conducting sphere.
5. Relate stored charge and voltage for a capacitor.
6. Relate voltage, charge, and stored energy for a capacitor.
7. Recognize situations in which energy stored in a capacitor is converted to other forms.
8. Describe the electric field inside the
(9) Relate the electric field to the density of the charge on the plates.
(10) Derive an expression for the capacitance of a parallel-plate capacitor.
(11) Determine how changes in dimension will affect the value of the capacitance.
(12) Derive and apply expressions for the energy stored in a parallel-plate capacitor and for the energy density in the field between the plates.
(13) Analyze situations in which capacitor plates are moved apart or moved closer together, or in which a conducting slab is inserted between capacitor plates, either with a battery connected between the plates or with the charge on the plates held fixed.
(14) Describe how the insertion of a dielectric between the plates of a charged parallel-plate capacitor affects its capacitance and the field strength and voltage between the plates.
(15) Analyze situations in which a dielectric slab is inserted between the plates of a capacitor.
(16) Calculate the equivalent capacitance of a series or parallel combination.
(17) Describe how stored charge is divided between capacitors connected in parallel.
(18) Determine the ratio of voltages for capacitors connected in series.
(19) Calculate the voltage or stored charge, under steady-state conditions, for a capacitor connected to a circuit consisting of a battery and resistors.

<table>
<thead>
<tr>
<th>CURRENT</th>
<th>Conductors are those materials</th>
<th>Student will be able to</th>
<th>8/4/20 - 28/4/20</th>
<th>13</th>
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<tbody>
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</table>
**ELECTRICITY**

which allow the flow of electricity through them. All materials have some resistance which is the measure of the opposition to the flow of current through them. The voltage across a conductor is directly proportional to the current if temperature is constant.

| 1 | Define an electric current, can relate the magnitude and direction of the current to the rate of flow of positive and negative charge, and relate current and voltage for a resistor. |
| 2 | Write the relationship between electric field strength and current density in a conductor, and describe, in terms of the drift velocity of electrons, why such a relationship is plausible. |
| 3 | Describe how the resistance of a resistor depends upon its length and cross-sectional area, and apply this result in comparing current flow in resistors of different material or different geometry. |
| 4 | Derive an expression for the resistance of a resistor of uniform cross-section in terms of its dimensions and the resistivity of the material from which it is constructed. |
| 5 | Derive expressions that relate the current, voltage, and resistance to the rate at which heat is produced when current passes through a resistor. |
| 6 | Apply the relationships for the rate of heat production in a resistor. |
| 7 | Identify on a circuit diagram whether resistors are in series or in parallel. |
| 8 | Determine the ratio of the voltages across resistors connected in series or the ratio of the currents through resistors connected in parallel. |
| 9 | Calculate the equivalent resistance of a network of resistors that can be broken down into series and parallel combinations. |
| 10 | Calculate the voltage, current, and power dissipation for any resistor in such a network of resistors connected to a single power supply. |
| 11 | Design a simple series-parallel circuit that produces a given current through and potential difference across one specified component, and draw a diagram for the circuit using... |
(12) Calculate the terminal voltage of a battery of specified emf and internal resistance from which a known current is flowing.
(13) Calculate the rate at which a battery is supplying energy to a circuit or is being charged up by a circuit.
(14) Determine a single unknown current, voltage, or resistance.

### MOVING CHARGES AND MAGNETISM

A current carrying conductor has a magnetic field around it. Our planet earth behaves as a magnet whose north pole is near the geographic south and vice versa. Ferromagnetic materials can retain their magnetism even after the external magnetizing field is removed and thus they can be used for storing data in hard discs, CDs etc. A current-carrying wire placed in a magnetic field experiences a force.

Student will be able to:

1. Calculate the magnitude and direction of the force in terms of \( q \), \( v \), and \( B \), and explain why the magnetic force can perform no work.
2. Deduce the direction of a magnetic field from information about the forces experienced by charged particles moving through that field.
3. Describe the paths of charged particles moving in uniform magnetic fields.
4. Derive and apply the formula for the radius of the circular path of a charge that moves perpendicular to a uniform magnetic field.
5. Describe under what conditions particles will move with constant velocity through crossed electric and magnetic fields.
6. Calculate the magnitude and direction of the force on a straight segment of current-carrying wire in a uniform magnetic field.
7. Indicate the direction of magnetic forces on a current-carrying loop of wire in a magnetic field, and determine the type of motion experienced by it.
8. Calculate the magnitude and direction of the torque experienced by a rectangular loop of wire carrying a current in a magnetic field.
9. Calculate the magnitude and direction of the field at a point near such a wire.
10. Use superposition to determine the
magnetic field produced by two long wires.
(11) Calculate the force of attraction or repulsion between two long current-carrying wires.
(12) Deduce the magnitude and direction of the contribution to the magnetic field made by a short straight segment of current-carrying wire.
(13) Derive and apply the expression for the magnitude of $B$ on the axis of a circular loop of current.
(14) State the law precisely.
(15) Apply the law to find magnetic fields at the center of the solenoid and toroid.

<table>
<thead>
<tr>
<th>Magnetism and Matter</th>
<th>Student will be able to</th>
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<tbody>
<tr>
<td>(1) Relate the same with the bar magnet</td>
<td></td>
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<tr>
<td>(2) Define a uniform and non-uniform magnetic field.</td>
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<tr>
<td>(3) State the properties of the field lines</td>
<td></td>
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<tr>
<td>(4) Define a magnetic dipole and dipole moment.</td>
<td></td>
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<tr>
<td>(5) Derive the torque acting on a magnetic dipole.</td>
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<tr>
<td>(6) Derive potential energy of a magnetic dipole.</td>
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<tr>
<td>(7) Derive magnetic intensity at axis and equator of the magnetic dipole</td>
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<tr>
<td>(8) State the gauss’s law of magnetism.</td>
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<tr>
<td>(9) Define the magnetic meridian, geographic meridian, Magnetic declination and Magnetic dip.</td>
<td></td>
</tr>
<tr>
<td>(10) State the properties of Paramagnetic, Ferromagnetic and Diamagnetic substances.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTROMAGNETIC INDUCTION</th>
<th>Change of magnetic field in a region produces an electric field and an emf. Self-inductance of a coil depends</th>
</tr>
</thead>
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<tr>
<td>Student will be able to</td>
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</tr>
<tr>
<td>(1) Calculate the flux of a uniform magnetic field through a loop of arbitrary orientation.</td>
<td></td>
</tr>
<tr>
<td>(2) Use integration to calculate the flux of a</td>
<td></td>
</tr>
</tbody>
</table>

1/7/20 - 8/7/20 5

9/7/20 - 24/7/20 10
<table>
<thead>
<tr>
<th>Topic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternating Current</td>
<td>upon its own geometry and the material placed inside its core. Alternating current changes its magnitude continuously and direction periodically. Transformers are used to step up or step down ac voltage to prevent the loss of energy during its transfer.</td>
</tr>
<tr>
<td></td>
<td>non-uniform magnetic field, whose magnitude is a function of one coordinate, through a rectangular loop perpendicular to the field. (3) Recognize situations in which changing flux through a loop will cause an induced emf or current in the loop. (4) Calculate the magnitude and direction of the induced emf and current in a loop of wire or a conducting bar under the following conditions: (5) to check its consistency with the conservation of energy. (6) define self and mutual inductance and give their units. (7) derive the mutual inductance between two coaxial coils (8) energy stored in an inductor.</td>
</tr>
<tr>
<td>ALTERNATING</td>
<td>Student will be able to (1) To determine its mean value, average value and RMS value. (2) To determine the RMS Value of AC current or Voltage. (3) Define a phasor (4) Derive the current across an inductor when an alternating voltage is applied across a resistor. (5) Derive the current across an inductor when an alternating voltage is applied across a capacitor. (6) Derive the current across an inductor when an alternating voltage is applied across a inductor. (7) Derive the current in a series LCR circuit. Transformer: (1) State its principle (2) Represent its structure diagrammatically. (3) Derive the expression for the alternating voltage. AC Generator:</td>
</tr>
<tr>
<td>Topic</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>ELECTROMAGNETIC WAVES</td>
<td>Changing electric field in a region produces magnetic field and vice versa. Changing electric flux leads to the production of displacement work.</td>
</tr>
<tr>
<td>RAY OPTICS AND OPTICAL INSTRUMENTS</td>
<td>Bending of light when it goes from one medium to another is called refraction. Splitting of light into its constituents on passing through a medium is called dispersion. Polaroids in sun glasses are based on polarization and are used to avoid glare</td>
</tr>
</tbody>
</table>
focal point shown, and determine whether the image is real or virtual, upright or inverted, enlarged or reduced in size.
(8) Use the mirror equation to relate the object distance, image distance, and focal length for a lens, and determine the image size in terms of the object size.
(9) Determine whether the focal length of a lens is increased or decreased as a result of a change in the curvature of its surfaces, or in the index of refraction of the material of which the lens is made, or the medium in which it is immersed.
(10) Determine by ray tracing the location of the image of a real object located inside or outside the focal point of the lens, and state whether the resulting image is upright or inverted, real or virtual.
(11) Use the thin lens equation to relate the object distance, image distance, and focal length for a lens, and determine the image size in terms of the object size.
(12) Analyze simple situations in which the image formed by one lens serves as the object for another lens.

<table>
<thead>
<tr>
<th>WAVE OPTICS</th>
<th>Student will be able to</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(1) Sketch or identify graphs that represent traveling waves and determine the amplitude, wavelength, and frequency of a wave from such a graph.</td>
</tr>
<tr>
<td></td>
<td>(2) Apply the relation among wavelength, frequency, and velocity for a wave.</td>
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<tr>
<td></td>
<td>(3) Understand qualitatively the Doppler effect for sound in order to explain why there is a frequency shift in both the moving-source and moving-observer case.</td>
</tr>
<tr>
<td></td>
<td>(4) Apply the principles of interference to coherent sources in order to:</td>
</tr>
</tbody>
</table>

27/8/20 - 24/9/19 6
(5) Describe the conditions under which the waves reaching an observation point from two or more sources will all interfere constructively, or under which the waves from two sources will interfere destructively.
(6) Determine locations of interference maxima or minima for two sources or determine the frequencies or wavelengths that can lead to constructive or destructive interference at a certain point.
(7) Relate the amplitude produced by two or more sources that interfere constructively to the amplitude and intensity produced by a single source.
(8) Sketch or identify the intensity pattern that results when monochromatic waves pass through a single slit and fall on a distant screen, and describe how this pattern will change if the slit width or the wavelength of the waves is changed.
(9) Calculate, for a single-slit pattern, the angles or the positions on a distant screen where the intensity is zero.
(10) Sketch or identify the intensity pattern that results when monochromatic waves pass through a double slit, and identify which features of the pattern result from single-slit diffraction and which from two-slit interference.
(11) Calculate, for a two-slit interference pattern, the angles or the positions on a distant screen at which intensity maxima or minima occur.

<table>
<thead>
<tr>
<th>DUAL NATURE OF RADIATION AND MATTER</th>
<th>Light and matter have dual nature. They can exhibit properties of waves as well as particles in</th>
<th>Student will be able to</th>
<th>13/10/20 - 21/10/20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student will be able to</td>
<td>(1) Relate the energy of a photon in joules or electron-volts to its wavelength or frequency.</td>
<td>6</td>
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<td></td>
<td>(2) Relate the linear momentum of a photon to</td>
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</tbody>
</table>
When light of suitable frequency falls on a metal, electrons are emitted and this is called photoelectric effect.

its energy or wavelength, and apply linear momentum conservation to simple processes involving the emission, absorption, or reflection of photons.

3) Calculate the number of photons per second emitted by a monochromatic source of specific wavelength and power.

4) Describe a typical photoelectric-effect experiment, and explain what experimental observations provide evidence for the photon nature of light.

5) Describe qualitatively how the number of photoelectrons and their maximum kinetic energy depend on the wavelength and intensity of the light striking the surface, and account for this dependence in terms of a photon model of light.

6) Determine the maximum kinetic energy of photoelectrons ejected by photons of one energy or wavelength, when given the maximum kinetic energy of photoelectrons for a different photon energy or wavelength.

7) Sketch or identify a graph of stopping potential versus frequency for a photoelectric-effect experiment, determine from such a graph the threshold frequency and work function, and calculate an approximate value of $h/e$.

**ATOMS**

All matter is made up of atoms. Atoms have protons, electrons and neutrons. Electrons revolve around the nucleus.

1) Calculate the energy or wavelength of the photon emitted or absorbed in a transition between specified levels, or the energy or wavelength required to ionize an atom.

2) Explain qualitatively the origin of emission or absorption spectra of gases.

3) Calculate the wavelength or energy for a single-step transition between levels, given the wavelengths or energies of photons emitted or absorbed in a two-step transition between the same levels.

25/9/20 - 30/9/20 3
(4) Draw a diagram to depict the energy levels of an atom when given an expression for these levels, and explain how this diagram accounts for the various lines in the atomic spectrum. 
(5) Calculate the wavelength of a particle as a function of its momentum.
(6) Describe the Davisson-Germer experiment, and explain how it provides evidence for the wave nature of electrons.

<table>
<thead>
<tr>
<th>NUCLEI</th>
<th>Students will be able to</th>
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<tbody>
<tr>
<td>(1) Interpret symbols for nuclei that indicate these quantities.</td>
<td></td>
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<tr>
<td>(2) Use conservation of mass number and charge to complete nuclear reactions.</td>
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<tr>
<td>(3) Determine the mass number and charge of a nucleus after it has undergone specified decay processes.</td>
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<tr>
<td>(4) Explain the nature of the nuclear force, compare its strength and range with that of the electromagnetic force.</td>
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<td>(5) Describe a typical neutron-induced fission and explain why a chain reaction is possible.</td>
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<tr>
<td>(6) Qualitatively relate the energy released in nuclear processes to the change in mass.</td>
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<tr>
<td>(7) Apply the relation ( E = mc^2 ) in analyzing nuclear processes.</td>
<td></td>
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</tbody>
</table>

| | 1/10/20 - 12/10/20 | 6 |
### SEMICONDUCTORS

Semi-Conductors are those materials which have their conductivity lying between conductors and insulators. A N-type and a P-type semiconductor together forms a P-N junction diode which is the basic component of all electronic gates.

Students will be able to
1. Classify between the semiconductors, metals and insulators based on band theory.
2. Explain the types of semiconductors
3. Explain the fabrication of the n-type and p-type of semiconductors.
4. Interpret from the energy level graph.
5. Describe the formation of a p-n junction.
6. Explain the characteristics of p-n junction Diode.
7. Explain the application of diode as a Rectifier.
8. Analyze the application of these devices and recommend the use of the same.

<table>
<thead>
<tr>
<th>SUBJECT: CHEMISTRY</th>
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<tbody>
<tr>
<td><strong>NAME OF ASPIRING UNIT/CONCEPT/SKILL</strong></td>
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<tr>
<td><strong>SA 1</strong></td>
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<tr>
<td><strong>CH-1: HALOALKANES AND HALOARENES</strong></td>
</tr>
</tbody>
</table>

Page 24 of 173
| CH-2 : ALCOHOLS, PHENOLS AND ETHERS | • IUPAC nomenclature, preparation, properties and uses of alcohols, phenols and ethers. | • Describe and explain their physical and chemical properties.  
• Understand the mechanism and stereochemistry involved in nucleophilic substitution reaction.  
• Study the uses and environmental effect of CH$_2$Cl$_2$, CHCl$_3$, CCl$_4$, CHI$_3$, Freons, and DDT. | 27 Feb 18 Mar 10 hours |
|---|---|---|
| CH-3 : ALDEHYDES, KETONES AND CARBOXYLIC ACID | • IUPAC nomenclature, preparation and properties of aldehydes, ketones, carboxylic acid | • Name alcohols, phenols and ethers according to IUPAC system of nomenclature.  
• Describe and explain the reactions involved in the preparation of alcohols, phenols and ethers.  
• Correlate properties of alcohols, phenols and ethers with their structures.  
• Write the trivial and IUPAC names of aldehydes, ketones, carboxylic acid and their derivatives. | 19 Mar 17 Apr 10 hours |
- Correlate the physical properties and chemical reactivities of these classes of compounds.
- Describe the important methods of their preparation and reactions.
- Understand the chemical reactions of these classes of compounds.
- Learn the chemistry of some commercially important members of these families of compounds.
<table>
<thead>
<tr>
<th>CH-5: CO-ORDINATION COMPOUNDS AND ORGANOMETALLICS</th>
<th>preparation and reactions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Werner’s theory of co-ordination compounds</td>
<td>• Understand the postulates of Werner’s theory of co-ordination compounds.</td>
</tr>
<tr>
<td>• Nomenclature</td>
<td>• Know the meaning of the terms: co-ordination entity (complex) central atom, ligand, co-ordination number, co-ordination polyhedron</td>
</tr>
<tr>
<td>• Isomerism</td>
<td>• Learn the rules of nomenclature of co-ordination compounds.</td>
</tr>
<tr>
<td>• Bonding in coordination compounds - Valance bond theory and crystal field theory</td>
<td>• Write the formulae and names of mononuclear co-ordination compounds.</td>
</tr>
<tr>
<td>• Stability of coordination compound</td>
<td>• Describe and predict the different types of isomerism in coordination compounds.</td>
</tr>
<tr>
<td></td>
<td>• Understand the</td>
</tr>
</tbody>
</table>

| 06 may | 20 may | 09 hours |

Page 27 of 173
- Metal carbonyls.

- Application of coordination

- Explain the stability of co-ordination compounds.

- Briefly describe the bonding in metal organometallic compounds.

- Appreciate the importance and applications of co-ordination

### CH-6 : SOLUTIONS

| Concentration of solution in different units. | 2 |
| Henry’s Law and Raoult’s law | State and explain Henry’s law and Raoult’s law. |
| Ideal and non-ideal solutions | Express concentration of solution in different units. |

| 21 may | 3 jul | 08 HOURS |
- Colligative properties
- Abnormal molecular mass solutions. And explain deviations of real solutions from Raoult’s law.
- Describe colligative properties and correlate these with molecular masses of the solutes
- Explain abnormal colligative properties exhibited by some solutes in solutions.

### CH-7: ELECTROCHEMISTRY

- Electrolytic conductors
- Conductivity and molar conductivity

- Differentiate between ionic (electrolytic) and electronic conductivity.
- Define resistivity conductivity and molar conductivity of ionic solutions.
- Learn the method for measurement of conductivity of electrolytic solutions and calculation of their molar conductivity.
- Justify the variation of conductivity and molar conductivity of solutions with change.

<table>
<thead>
<tr>
<th></th>
<th>6 Jul</th>
<th>20 Jul</th>
<th>10 Hrs</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>
• Kohlrausch law

• Electrochemical cell and Nernst equation

• Electrolysis

• Corrosion

• Primary and secondary cell

• Understand corrosion as an electrochemical process.

in their concentration and define, (molar conductivity at zero concentration or infinite dilution).

• Enunciate Kohlrausch law and learn its applications.

• Describe an electrochemical cell and differentiate between galvanic and electrolytic cells.

• Use Nernst equation for calculating the emf of galvanic cell and define standard potential of the cell.

• Develop relation between standard potential of the cell and Gibbs energy of reaction and its equilibrium constant.

• Understand the quantitative aspects of electrolysis

• Understand corrosion as an electrochemical process.
Describe the construction of some primary and secondary batteries and fuel cells.

**CH-8: CHEMICAL KINETICS**

- Avg. rate and instantaneous rate
- Order and molecularity
- Rate law
- Integrated rate expression for zero and first order reaction

Define the average and instantaneous rate of a reaction and express it in terms of change in concentration of either of the reactants or products with time.

- Distinguish between elementary (one step) and complex reactions (multiple steps).
- Describe the molecularity of elementary reactions and order of simple and complex reactions.
- Define rate constant and describe the dependence of the rate of reaction on the concentration of the reactants

<table>
<thead>
<tr>
<th>21 Jul</th>
<th>28 Jul</th>
<th>06 hours</th>
</tr>
</thead>
</table>
- Arrhenius equation and Collision theory

- Derive the integrated rate expression for zero and first order reaction.
- Define half life time of a reaction and correlate it with rate constant and initial concentration of one of the reactants.

- Describe the temperature dependence of rate constant in terms of Arrhenius equations.
- Learn the physical meaning of activation energy and pre exponential factor.

<table>
<thead>
<tr>
<th>CH-9: THE SOLID STATE</th>
<th>Classification of solids</th>
<th>Classify solids on the basis of binding forces.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Types of unit cell</td>
<td>Distinguish crystalline solids from amorphous solids.</td>
</tr>
<tr>
<td></td>
<td>Types of packing and efficiency of packing in solids and density</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imperfection of solid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electrical and magnetic properties of solid</td>
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<thead>
<tr>
<th></th>
<th>29 jul</th>
<th>5 Aug</th>
<th>5 hours</th>
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<tbody>
<tr>
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<tr>
<td>CH-10: d- AND f- BLOCK ELEMENTS</td>
<td>solid</td>
<td>solid</td>
<td></td>
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<td>--------------------------------</td>
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</tr>
<tr>
<td>Characteristics of d and f block elements.</td>
<td>• Understand structure of solids and define unit cell, lattice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation and properties of , K₂Cr₂O₇, KMnO₄</td>
<td>• Describe packing including efficiency of packing and also its density.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lanthanides contraction.</td>
<td>• Describe the imperfections in solids and their effects on the properties.</td>
<td></td>
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<tr>
<td>• Justify the position of the d-and f-blocks of elements in the periodic table.</td>
<td>• Describe the electrical and magnetic properties.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Learn the electronic configurations of d- and f-block elements.</td>
<td>• Describe the preparation and properties of, K₂Cr₂O₇, KMnO₄</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Know the general properties of the transition elements with special reference to group trends.</td>
<td>• Describe the properties of f-block.</td>
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</tbody>
</table>

| 6 Aug | 14 Aug | 06 hours |
| CH 11: p-BLOCK ELEMENTS | General trends in the chemistry of elements of group 16, 17 and 18.  
| | Preparation and properties of certain compounds of these groups.  
| | Structure of oxo-acid of group 16 & 17 and some compounds of Xenon.  
| elements (lanthanides and actinides).  
| | Describe the cause and consequence of lanthanides contraction.  
| | Appreciate the general trends in the chemistry of elements of group 16 and 17 and 18.  
| | Know about the allotropes of sulphur and phosphorous.  
| | Describe the preparation, properties and uses of Oxygen, ozone, phosphine, sulphur-di-oxide, Sulphuric acid, chlorine and hydrochloric acid. Fluorides and oxides of Xenon.  
| | Draw the structure of oxoacid of sulphur, halogens and some compounds of Xenon.  
| 17 Aug 25 Sep 07 Hrs |  
| CH-12: SURFACE CHEMISTRY | Adsorption  
| | Describe interfacial phenomenon and its importance.  
<p>| 26 Sep 08 Oct 07 hours |</p>
<table>
<thead>
<tr>
<th>Catalysis</th>
<th>Colloids</th>
</tr>
</thead>
</table>

- Define adsorption and classify it into physical and chemical adsorption.
- Learn about factors controlling adsorption from gases and solutions on solids.
- Correlate adsorption results on the basis of Freundlich adsorption isotherms.
- Describe the types of catalysis — homogeneous and heterogeneous.
- Mechanism of enzyme catalysed reaction.
- Understand the nature of the colloidal state, and learn the preparation and properties of various types of colloids.
- Learn about emulsions, their types, preparation and properties.
- Learn about the uses of colloids.
<table>
<thead>
<tr>
<th>CH-13: GENERAL PRINCIPLE AND PROCESSES OF ISOLATION OF ELEMENTS</th>
<th>09 Oct</th>
<th>16 Oct</th>
<th>04 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Principles and methods of extractions.</td>
<td></td>
<td></td>
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<tr>
<td>• Steps involved in metallurgy.</td>
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<tr>
<td>• Occurrence and extraction of Al, Cu, Zn and Iron.</td>
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<tr>
<td>• Feasibility of a reaction-Ellingum diagram.</td>
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<tr>
<td>• List and describe the various steps involved in the metallurgy i.e. concentration, oxidation, reduction and refining.</td>
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<tr>
<td>• Describe the steps involved in the extraction of Al, Cu, Zn and Fe.</td>
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<tr>
<td>• To choose the right reducing agent for the reduction of the metal oxide with the help of Ellinghum diagram</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CH-14: BIOMOLECULE</th>
<th>18 Oct</th>
<th>30 Oct</th>
<th>04 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrates,</td>
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<tr>
<td>proteins</td>
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<tr>
<td>nucleic acid</td>
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<tr>
<td>• Learn about the preparation, structure and properties, uses of carbohydrates.</td>
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<tr>
<td>• Describe the primary, secondary and tertiary structures of proteins</td>
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<tr>
<td>• List their functions in human body.</td>
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<tr>
<td>• Differentiate between DNA and RNA</td>
<td></td>
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</tbody>
</table>
| Vitamin | • Describe the double helical structure of DNA.  
|         | • Classify Vitamins and appreciate its importance and also list the disease caused by the deficiency of these vitamins. |
| CH-15: POLYMERS | Classification, mechanism of polymerization, Some important polymers, their monomers and application.  
|         | • Appreciate that some simple small molecules called monomers undergo repeated addition / condensation reactions to form high molecular mass species called macromolecules or polymers.  
|         | • Learn about the formation of polymers by different modes.  
|         | • List the monomers of various polymers.  
|         | • Appreciate that a large variety of articles of daily use are made from polymers.  
| 02 Nov | 05 Nov | 04 hours |
| CH-16 : CHEMISTRY IN EVERYDAY LIFE CHEMISTRY IN MEDICINE | • analgesics, tranquillizers, antiseptics, disinfectants, antibiotics, antimicrobials, antihistamines, antifertility drugs and antacids  
  
  • Chemicals in food preservatives, sweetening agents, antioxidants.  
  
  • Soaps and detergents | • Describe the applications of analgesics, tranquillizers, antiseptics, disinfectants, antibiotics, antihistamines, antifertility drugs and antacids and their action on human body.  
  
  • Understand the terms: preservatives, sweetening agents, antioxidants  
  
  • Classify detergents into anionic, cationic and non-ionic categories. | 06 nov | 12 Nov | 04 hours |
<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED NUMBER OF PERIODS</th>
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<tbody>
<tr>
<td>Unit 1: Reproduction in organisms. (14 marks)</td>
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<tr>
<td>Chapter 1: Reproduction in organisms</td>
<td>Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.</td>
<td>The students will be able to: 1. Reason why Reproduction is a characteristic feature of all organisms for continuation of species. 2. List the modes of reproduction - asexual and sexual reproduction. Explain the modes of asexual reproduction - binary fission, Sporulation, budding, gemmule,</td>
<td>12th Feb</td>
<td>19th Feb</td>
<td>5 hours</td>
</tr>
</tbody>
</table>
3. Students will be able to compare between sexual and asexual reproduction stating the advantage and disadvantage of each.
4. They will be able to draw and explain different mode of asexual reproduction in different groups of animals and plants.

| Chapter 2: Sexual reproduction in flowering plant | Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic... | The students are able to: 5. Draw and explain the sexual reproduction in flowering plant. 6. Predict and correlate the structure of flowering plants with mode of pollination. 7. Explain ‘double fertilization’... | 20 Feb | 28 Feb | 6 hours |
| Chapter 3: Human Reproduction | Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. | Students will be able to:  
11. Illustrate the Male and female reproductive systems; microscopic anatomy of testis and ovary.  
12. Describe gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilization, embryo development upto blastocyst formation, implantation; | 2nd March 2022 | 9th March | 5 hours |
<p>| | | | |</p>
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<tbody>
<tr>
<td><strong>13.</strong> Explain the cause of menstruation and stopping of it, the menopause and why aged mother had more chance of Down’s baby.</td>
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<tr>
<td><strong>14.</strong> Explain the event of parturition with the involvement of hormones etc.</td>
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<tr>
<td><strong>15.</strong> Enumerate the stage of development of embryo with events and descriptions.</td>
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<tr>
<td><strong>16.</strong> Explain the cause of motility of sperm, role of scrotum etc.</td>
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<tr>
<td><strong>17.</strong> Appreciate and explain the role of ‘first milk’ (Colostrum), and hormonal aspect of lactation.</td>
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<tr>
<td>Chapter 4</td>
<td>Reproductive health</td>
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<tr>
<td>The life span of organisms is limited, but they all have the ability to perpetuate ‘life’, thereby ensuring the survival of the species. The resulting offspring have the same general characteristics as the parents, whether such individuals are produced by asexual or sexual reproduction. Inheritance depends on molecules called nucleic acid (DNA, RNA) which contain coded information passed between organisms from one generation to the next.</td>
<td>Students will be able to: 18. Explain the cause of sexually transmitted diseases (STD) and way to prevent/cure them. 19. Elucidate the cause of birth control measures, law to formulate abortion, MTP etc. 20. Explain different Assisted Reproductive Technology (ART) to help to have babies for infertile couple.</td>
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<table>
<thead>
<tr>
<th>Unit 2: Genetics and Evolution (18 marks)</th>
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<thead>
<tr>
<th>Chapter 5 Principles of Heredity</th>
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</thead>
<tbody>
<tr>
<td>1. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms. 2. Make and defend a claim based on evidence that</td>
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<tr>
<td>11th march</td>
<td>18th march</td>
<td>4 hours</td>
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<tr>
<td>19th march</td>
<td>14th apr</td>
<td>10 hours</td>
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Page 43 of 173
inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

4. Apply concepts of probability to explain the variation and distribution of expressed traits in a population.

5. Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism. Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.
**Chapter 6: Molecular basis of inheritance**

1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.
2. Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

**Students will be able to**

1. Explain and appreciate how scientists discovered ‘DNA as a genetic material’
2. Explain how DNA is packaged inside the chromosome.
3. Describe stepwise the steps in protein synthesis and the components in the cell that regulated the process.
4. Sequentially explain how gene can be regulated. They will be able to present reason for the need for regulation of gene expression.

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**15th April**  **30th April**  **8 hours**
| Chapter 11 | Principles and process of biotechnology: | Applications of biotechnology in the designed world such as genetically modified food, DNA fingerprinting, oil biodegradation, insulin production, and bioethics. Biotechnology serves a multifaceted role to sustain or improve the quality of life. | Student will be able to
1. Appreciate how this new field ‘biotechnology’ developed from the discovery of some crucial enzymes like restricted endonuclease (molecular scissor) and DNA-ligase (molecular adhesive).
2. Explain the different methods of biotechnology | 1<sup>st</sup> May | 18<sup>th</sup> May | 6 hours |

| Chapter 12 | Application of biotechnology in health and agriculture | Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms. | Student will be able to
1. Describe application of these techniques to prepare human insulin or produce vaccines etc. | 19<sup>th</sup> May | 2<sup>nd</sup> Jul | 5 hours |
## Chapter 7: Evolution

1. Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

2. Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the

<table>
<thead>
<tr>
<th>Students will be able to:</th>
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<tbody>
<tr>
<td>1. Site examples of evidences of evolution like Archaeopteryx etc. They should be able present argument in support of evolution.</td>
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<tr>
<td>2. Explain the principle of natural selection and distinguish Darwinism from Lamarckism</td>
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<td>3. List all the different cause of variation and be able to explain how that helps in evolution.</td>
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<tr>
<td>4. Explain Hardy Weinberg Law, Genetic drift with particular</td>
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</table>

### Students Assessment:
- **3rd July**: 10 July, 5 hours
3. Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

5. Rationalize the cause of adaptive radiation such as different marsupials in Australia. Also will be able to predict the nature of adaptation required for a particular environment.

Unit 3: Biology and Human Welfare (14 marks)

Chapter 8 Human health and disease

Staying healthy is a lifelong process that involves all dimensions of wellness. Developing and maintaining wellness requires ongoing evaluation of factors affecting health and modifying

Students will be able to:

1. Define Pathogens; parasites causing human diseases (malaria, filariasis, ascariasis, typhoid, pneumonia,

13 July 28th Jul 11 hours
The early detection and treatment of diseases and health conditions impact one’s health. Identifying unsafe situations and choosing appropriate ways to reduce or eliminate risks contributes to the safety of self and others.

2. Describe the cause of immunity and antigen-antibody reactions.
3. Explain the cause of different diseases like malaria etc.
4. Describe the cause of problems due to drugs, tobacco and alcohol consumption.

Chapter 9: Improvement in food production

<table>
<thead>
<tr>
<th>Student will be able to:</th>
<th>29th Jul</th>
<th>6th August</th>
<th>6 hours</th>
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<tbody>
<tr>
<td>1. Explain plant breeding, tissue culture technique etc.</td>
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<tr>
<td>2. Elucidate different ways to improve in food production like single cell protein etc.</td>
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<tr>
<td>3. Describe the process of apiculture</td>
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</table>

Concepts of statistics and probability to support explanations that organisms with advantageous heritable traits increase in proportion to organisms lacking this trait. Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms.

common cold, amoebiasis, ring worm); explain the Basic concepts of immunology -vaccines; cancer, HIV and AIDS; Adolescence, drug and alcohol abuse.
| Chapter 10: Microbes in human welfare | Student will be able to:  
1. Describe the different ways of food processing using microbes.  
2. Explain the use of microbes in sewage treatment plant.  
3. Describe the biogas production and use of other bio-control agents and using bio-fertilizer in agriculture. | 7th August | 25th August | 10 hours |
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<tbody>
<tr>
<td>Half yearly Examination</td>
<td></td>
<td>1st September</td>
<td>19th September</td>
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<tr>
<td>Unit 5: Ecology and Environment (14 marks)</td>
<td>Students will gain understanding on Organisms and environment, Ecosystems, Biodiversity and its conservation. Become aware about Environmental issues.</td>
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</tbody>
</table>
| Chapter 13: Organisms and environment | Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. | Students will be able to:  
1. Define ecosystem and niche concept.  
2. Explain different interaction between different community like predation, mutualism, parasitism etc.  
3. Define different population attributes like natality, mortality etc. | 21st September | 7th October | 10hours |
| Chapter 14: Ecosystems | 1. Evaluate the claims, evidence, and reasoning that the complex interactions in | Students will be able to:  
1. Define and differentiate primary and secondary | 8th Oct | 26th Oct | 6hours |
ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. (Ecosystems are interconnected by biological, chemical, and physical processes so that changes in one ecosystem can have local or global consequences. Changes in one part of the system will affect other parts of the system)

2. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.

Chapter 15: Biodiversity and its conservation:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>27th October</th>
<th>3rd Nov</th>
<th>6 hours</th>
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</thead>
<tbody>
<tr>
<td>1. Explain the urgency of conservation of biodiversity.</td>
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<td>2. Explore root-cause of loss of biodiversity and ways and means</td>
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<tr>
<td>Chapter 16: Environmental issues</td>
<td>Student will be able to:</td>
<td>5th Nov</td>
<td>12th Nov</td>
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<tr>
<td>Design, evaluate, and refine a plan for reducing the impacts of human activities on the environment and biodiversity.</td>
<td>1. Explain what is pollution and how we can overcome soil, water or air-pollution etc.</td>
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<tr>
<td>2. Explain the ecological crisis like ‘green-house effect, global warming, MIC disaster, ozone depletion etc. and their harmful effects and remedial measures.</td>
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<td>3. Elucidate the cause of deforestation and their effect in</td>
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<td>to overcome that (in future).</td>
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<td>3. Explain the term ‘extinction, endangered etc and could differentiate them.</td>
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<td>4. Explain the ‘Red data book and it’s importance.</td>
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<tr>
<td>5. Analyze the importance of Ramsar sites and estuaries.</td>
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</tbody>
</table>

Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. (The complexity and interaction of these ecosystems requires individual and collaborative efforts on a local, regional, national, and international scale).
| Practical | **Study/observation of the following (Spotting)** | **1. Flowers adapted to pollination by different agencies (wind, insect, bird).**  
2. Pollen germination on stigma through a permanent slide.  
3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).  
4. Meiosis in onion bud cell or grasshopper testis through permanent slides.  
5. T.S. of blastula through permanent slides.  
6. Mendelian inheritance using seeds of different colour/sizes of any plant.  
7. Prepared pedigree charts of any one of the genetic traits such as |

**Page 54 of 173**
<p>| 1.  | rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness. |
| 2.  | 8. Controlled pollination - emasculation, tagging and bagging. |
| 3.  | 9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, Roundworm through permanent slides or specimens. Comment on symptoms of disease that they cause. |
| 4.  | Two plants and two animals (models/virtual images) found in xeric conditions. Comment upon their morphological adaptations. |
| 5.  | 11. Two plants and two animals (models/virtual images) found in aquatic conditions. Comment upon their morphological adaptations. |</p>
<table>
<thead>
<tr>
<th>NAME OF UNIT/CHAPTER</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING TARGETS/OUTCOMES</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF PERIODS/HOURS</th>
</tr>
</thead>
</table>
| Themes in Indian History: Part1 | - Analyze connections among developments in broader historical contexts regarding emergence of early urban center’s as economic and social institutions.  
- Critique the usefulness of historical sources for a specific historical inquiry based on their maker, date, place of origin, intended audience, and purpose.  
- Detect possible limitations in various kinds of historical evidence and differing | Theme 1: Students will be able to: -  
1. Explain how archaeological sources were interpreted.  
2. Explain the development of urban centres.  
3. Apply different strategies to identify social differences.  
4. Critically analyze the reason for the delay in discovery of Harappan Civilization | a.17th February | a.28th February | a.7 hrs. |
| a. Theme1: Bricks, Beads and Bones | | | | | |
| b. Theme2: Kings, Farmers and Towns | | | | | |
| c. Theme3: Kinship, Caste and Class | - Explain how archaeological sources were interpreted.  
- Explain the development of urban centres.  
- Apply different strategies to identify social differences.  
- Critically analyze the reason for the delay in discovery of Harappan Civilization | Theme 2: Students will be able to: -  
1. Explain major trends in the political and economic history of the subcontinent.  
2. Examine inscriptive analysis and the ways in which these have shaped | b.1st March | b. 13th March | b. 7 hrs. |
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<table>
<thead>
<tr>
<th>Theme 4: Thinkers, Beliefs and Buildings</th>
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<tbody>
<tr>
<td>secondary interpretations. ● Analyze how current interpretations of the past are limited by the extent to which available historical sources represent perspectives of people at the time. ● Evaluate the relative influence of various causes of events and developments in the past.</td>
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<tr>
<td>the understanding of political and economic processes.</td>
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</table>

**Theme 3:**
Students will be able to:
1. Critically analyze the social system of ancient India.
2. Explain strategies of textual analysis and their use in reconstructing social history.

**Theme 4:**
Students will be able to:
1. Explain the major religious developments in early India.
2. Examine strategies of visual analysis and their use in reconstructing histories of religion.
3. Explain the process of development of integration of cults in Hinduism.
4. Analyze the features of Bhakti and Sufi traditions.
5. Suggest what historians

| d.6th April | d.17th April | d. 5.30 hrs. |
Knowledge of the past can be enriched through a consideration of descriptions of social life provided by travellers.

- Evaluate contribution of religion by emphasizing on love and devotion which bring people from different social groups close to each other.
- Understand how to handle archaeological sources as indicators for assessing growth and development of an empire.
- Use questions

<table>
<thead>
<tr>
<th>Theme in Indian History: Part 2</th>
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<tbody>
<tr>
<td>a. Theme 5: Through the Eyes of Travellers</td>
</tr>
<tr>
<td>b. Theme 6: Bhakti Sufi Traditions</td>
</tr>
<tr>
<td>c. Theme 7: An Imperial Capital Vijayanagara</td>
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<thead>
<tr>
<th>Theme 5: Students will be able to:</th>
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<tbody>
<tr>
<td>1. Explain the reasons which make the account of the travellers interesting.</td>
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<tr>
<td>2. Interpret the excerpts of travel accounts.</td>
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<tr>
<td>3. Assess the importance of travel accounts as source of history.</td>
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<tr>
<th>Theme 6: Students will be able to:</th>
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<tbody>
<tr>
<td>1. Analyze the features of Bhakti Movement led by Alvars and Nayanars.</td>
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<tr>
<td>2. Critically analyze the relationship between Muslim rulers and non-Muslim subjects in medieval India.</td>
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<tr>
<td>3. Explain the features of Sufism.</td>
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<tr>
<td>4. Interpret Kabir’s understanding of Ultimate reality.</td>
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<thead>
<tr>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>a. 20th April</td>
<td>a. 30th April</td>
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<td>b. 1st May</td>
<td>b. 13th May</td>
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<tr>
<td>c. 14th May</td>
<td>c. 22nd May</td>
</tr>
<tr>
<td>a. 5.30 hrs</td>
<td>b. 7.30 hrs</td>
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<tr>
<td>c. 5.30 hrs</td>
<td>c. 5.30 hrs</td>
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</tbody>
</table>
d. Theme 8: Peasants, Zamindars and the State

- Analyze the ways in which the perspectives of those writing histories shaped the history that they produced.
- Analyze how current interpretations of the past are limited by the extent to which available historical sources represent perspectives of people at the time.
- Critique the appropriateness of the historical

5. Identify the influence of local customary practices on Islam in India.
6. Comment on the relationship between State and religious groups in Southern India.

Theme 7:
1. Assess Krishnadevaraya’s contribution for the development of Vijayanagara empire.
2. Identify the reasons for patronizing building of temples by the rulers.

Theme 8:
Students will be able to:
1. Explain the expansion of agriculture between 16th and 17th century.
2. Explain the correlation between caste, poverty in rural area in Mughal period.
3. Critically analyze the position of women in agrarian society.
4. Analyze the transition

Page 59 of 173
sources used in a secondary interpretation.

from tribal to monarchical society.
5. Critically analyze the relation between zamindars and peasants.

**Theme 9:**
Students will be able to: -
1. Assess the importance of chronicles.
2. Explain the idea of kingship advocated by Abul Fazl.
3. Explain the concept of sovereignty as social contract.
4. Comment on the treatment of different religious groups by Mughal rulers.

<table>
<thead>
<tr>
<th>Themes in Indian History: Part3</th>
<th>a. Theme 10: Colonialism and the Countryside</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Relate coming up of new urban centres during colonial period with trade and commerce.</td>
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<tr>
<td>- Analyze the significance of mass participation in freedom struggle.</td>
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**Theme 10:**
Students will be able to: -
1. Examine the emergence of powerful groups in rural Bengal.
2. Critically analyze the land settlement system devised by the colonial government.

<p>| a.7th August | a.21st August | a.6.30 hrs. |</p>
<table>
<thead>
<tr>
<th>Theme 11: Rebels and the Raj</th>
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<tbody>
<tr>
<td>• Appreciate the humanitarian value demonstrated by few for saving lives and generate communal harmony.</td>
</tr>
<tr>
<td>• Integrate evidence from multiple relevant historical sources and interpretations into a reasoned argument about the past.</td>
</tr>
<tr>
<td>• Critique the central arguments in secondary works of history on related topics in multiple media in terms of their historical accuracy.</td>
</tr>
<tr>
<td>• Distinguish between long-term causes and triggering events in developing a historical</td>
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<tr>
<td>3. Explain the reasons for extensive surveys conducted by the British.</td>
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<tr>
<td>4. Examine the circumstances that led to the peasants’ riot in Deccan.</td>
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<table>
<thead>
<tr>
<th>Theme 12: Colonial Cities</th>
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</thead>
<tbody>
<tr>
<td>1. Explain the reasons for the growth of new urban centres.</td>
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<tr>
<td>2. Identify the practice of</td>
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<thead>
<tr>
<th>Theme 13: Mahatma Gandhi and the Nationalist</th>
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</thead>
<tbody>
<tr>
<td>1. Explain the reasons for the 1857 revolt.</td>
</tr>
<tr>
<td>2. Identify the element of unity among Hindu and Muslims in their struggle against British.</td>
</tr>
<tr>
<td>3. Explain the importance of rumor as a factor for revolt.</td>
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<tr>
<td>4. Interpret various types of visual as propaganda to invoke sentiments against the rebels by the British.</td>
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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>b.22nd August/ 21st September</td>
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<tr>
<td>b.31st August/ 25th September</td>
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<tr>
<td>c.28th September</td>
</tr>
<tr>
<td>c.7th October</td>
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<tr>
<td>d.8th October</td>
</tr>
<tr>
<td>b.7.30 hrs.</td>
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<tr>
<td>c.5.30 hrs.</td>
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<tr>
<td>d.5.30 hrs.</td>
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</table>
| Movements                                      | argument.                                                                 | racial discrimination through the construction of Black towns.  
|                                               | • Analyze how historical contexts shaped and continue to shape people’s perspectives. | 3. Critically analyze the impact of urbanization on the lives of common people especially women and lower strata of the traditional society.  
|                                               |                                                                            | 4. Examine the reason for building massive and magnificent building on European style by the colonial ruler.  
| e. Theme 14: Understanding Partition          |                                                                            |  
| f. Theme 15: Framing the Constitution         |                                                                            |  
| Theme 13: Students will be able to: 1. Examine the contribution of Gandhiji for broadening the base of freedom struggle.  
|                                               |                                                                            | 2. Critically analyze various sources to know Gandhi as a person.  
|                                               |                                                                            |  
|                                               |                                                                            | Theme 14: Students will be able to: 1. Analyze the reasons for the partition of India.  
|                                               |                                                                            | 2. Assess the importance of |
oral narratives as source of history.
3. Comment on the condition of women.
4. Appreciate the humanitarian values which had been demonstrated by many people during the genocide.

**Theme 15:**
Students will be able to:
1. Critically analyze the views and opinions of the constitution makers.
2. Relate various issues that are being faced by today’s India.

- The themes as a whole - Children learn about developments in different spheres – economic, cultural, social, political, and religious – even there is an attempt
to break the boundaries between them.

- Historians have to find sources that makes the past accessible. But sources do not just reveal the past; historians must grapple with sources, interpret them, and make them speak.

- As the vision of history broadens, historians begin tracking new sources, searching for new clues to understand the past. And when that happens, the conception of what constitutes a source itself changes.
## SUBJECT: SOCIOLOGY

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>Enduring Understanding</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
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<tbody>
<tr>
<td><strong>Unit 1</strong></td>
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<tr>
<td>The Demographic Structure of the Indian Society</td>
<td>1. Emphasise on demography and its significance while studying a society.</td>
<td>1. Analyse the relation between social demographics and occurrence of social phenomena. 2. Analyse and explain India’s demographic profile. 3. Learn about the different aspects of Social Demography and understand the role of social consequences in populations trends 4. Learn about the importance of accuracy in data collection. 5. Formulate basic question techniques for beginning a research. 6. Understand the importance of Demographic data in planning and implementation of policies.</td>
<td>11-Feb-2020</td>
<td>25-Feb-2020</td>
</tr>
<tr>
<td><strong>Unit 2</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Social Institutions:</td>
<td>1. Develop a perspective in analyzing caste, tribe and family</td>
<td>1. Compare and contrast the importance and continuity of</td>
<td>6-Feb-2020</td>
<td>12-Mar-2020</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Unit 3</th>
<th>Market as a social institution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Define market and explain its significance much beyond its economic functions.</td>
</tr>
<tr>
<td></td>
<td>2. Explain the impact of global integration of market.</td>
</tr>
<tr>
<td></td>
<td>13-Mar-2020 10-Apr-2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 4</th>
<th>Patterns of Social Inequalities and Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Analyse why inequality is more social than economic.</td>
</tr>
<tr>
<td></td>
<td>2. Reason out discrimination as a systematic structural feature.</td>
</tr>
<tr>
<td></td>
<td>3. Critically analyse how social institutions justify existence of inequality.</td>
</tr>
<tr>
<td></td>
<td>13-Apr-2020 4-Apr-2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 5</th>
<th>The Challenges of Cultural Diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Understand the relationship between nation-states and cultural communities.</td>
</tr>
<tr>
<td></td>
<td>2. Identify the major challenges that diversity poses in India</td>
</tr>
<tr>
<td></td>
<td>3. Analyse the perspective differences between Indian</td>
</tr>
<tr>
<td></td>
<td>27-Apr-2020 5-May-2020</td>
</tr>
</tbody>
</table>
### Book II
#### Unit 1: Structural Changes

1. Develop a clear view of Colonialism as a structure and system and its influence on change in India.
2. Analyse the complex and contradictory structural changes in Indian society.
3. Learn about aspects of structural changes in terms of industrialisation and urbanisation.

#### Unit 2: Cultural Changes

1. Develop a cognitive-structural attributes of Indian culture.
2. Review and analyse conceptual formulation of cultural change through deliberate efforts to change and the decisive change in cultural practices.
3. Develop a comprehensive knowledge about the processes and problems of cultural change.

<table>
<thead>
<tr>
<th></th>
<th>Achieve a balanced thought and understanding for the need to preserve cultural diversity by finding answers to problems posed.</th>
<th>and Western context of issues posing threat to community identity.</th>
<th>Explain the role of state and civil society in managing cultural diversity.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Book II</strong></td>
<td><strong>Unit 1</strong></td>
<td><strong>Structural Changes</strong></td>
<td><strong>Unit 2</strong></td>
</tr>
</tbody>
</table>

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### Unit 3
**The Story of Indian Democracy**

1. Describe a synoptic view about the core values of Indian Democracy.
2. Develop a debating approach towards different views on the system.
3. Analyse the functioning of competing interests of different pressure groups and political parties.

### Unit 4
**Change and Development in Rural Society**

1. Learn the structure, functions and objective tendencies of development of the Rural Society.
2. Understand the various aspects and complexities of rural society through a sociological perspective.
3. Define and explain the concept of rural and identify and explain the importance of rural society to national development.
4. Analyse the interconnectedness of the rural economy to the wider network and its impact.

---

### Notes

- **3-Aug-2020**
- **4-Aug-2020**
- **17-Aug-2020**
- **8-Aug-2020**
## Unit 5: Change and Development in Industrial Society

1. Understand how change in technology and types of works available has changed social relations in urban India.
2. Analyse the role of social institutions in influencing the way work is organised in an industrial society.
3. Learn about the Indian experience of industrialisation.

| 1. Explain the social features of industrial society. |
| 2. Describe the changes in the process of job recruitment and its impact on urban social relations. |
| 3. Negative consequences of urbanisation as a process on certain specific communities. |
| 4. Learn about the kind of jobs available and where people work in an industrial society in relation to individual choices. |
| 5. Understand that the outcome of social patterns leads to change and development in industrial society. |
| 6. Analyse how choices people make in turn influences how society works in relation to industrial society. |

| 14-Sept-2020 | 9-Sep-2020 |

## Unit 6: Globalisation and Social Change

1. Seek to understand the meaning of globalisation, its different dimensions and their social consequences.

| 1. Explain the sociological perspectives to understand globalisation. |
| 2. Describe different dimensions of globalisation. |
| 3. Analyse the impact of |

| 30-Sep-2020 | 2-Oct-2020 |
globalisation and its social consequences in various aspects of society.

<table>
<thead>
<tr>
<th>Unit 7: Mass Media and Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sketch out the growth of mass media in diverse socio-political scenario.</td>
</tr>
<tr>
<td>2. Develop the ability to appreciate the dialectical relation between mass media and society.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 8: Social Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analyse and reflect on the significant role of social movements in changing and shaping societies.</td>
</tr>
</tbody>
</table>

| 1. Understand the specificity of the current communication revolution |
| 2. Explain the expansion of modern mass media |
| 3. Analyse the changes in mass media due to political and socio-cultural contexts. |

| 1. Describe how social movements shaped today’s society. |
| 2. Understand the significance of social movements |
| 3. Analyse the societal situation that leads to rising of social movements. |
| 4. Critically evaluate the reasons why some movements phase out and die. |

<table>
<thead>
<tr>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Oct-2020</td>
</tr>
<tr>
<td>23-Oct-2020</td>
</tr>
<tr>
<td>15-Nov-2020</td>
</tr>
</tbody>
</table>

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## SUBJECT: POLITICAL SCIENCE

<table>
<thead>
<tr>
<th>NAME OF ASPIRING UNIT/CONCEPT/SKILL</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING OUTCOMES</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOK-I</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>
| Chapter 1: The Cold War Era        | The Chapter essentially speaks about how the power structure in the world changed after the Second world war. With UK and France focusing on redevelopment and Germany and Japan destroyed the chapter explains how the USA and USSR took the world by a storm. The chapter also speaks about NAM and NIEO. | 1. Understanding the reasons behind emergence of two power blocks in international politics.  
2. An introduction to the arenas of cold war and the Cuban missile crisis.  
3. Analyzing NAM and its challenge to the superpowers.  
4. Analyzing India’s role in the cold war. | 16.2.20      | 20.2.20   | 5 Hours    |
| Chapter 2: The end of Bipolarity    | The world was divided into two power blocks after the second world war. This chapter talks about how leadership change and public turmoil led to the disintegration of the soviet block and gives us an insight into what happened post USSR. | 1. An introduction to democratic politics and capitalism in post-communist regime.  
2. Understanding the reasons behind the disintegration of USSR and Gorbachev’s role in the same.  
3. Understanding India’s | 27.2.20      | 5.3.20    | 5 Hours    |
| BOOK-II | Chapter 1: Challenges to Nation Building | We Begin to understand the story of politics in India since independence and towards nation building. | 1. Understanding Nehru’s approach to nations building.  
2. Understanding the process and consequences of partition.  
3. Understanding the concept of reorganization of states after independence. | 10.3.20 | 18.3.20 | 6 Hours |
| --- | --- | --- | --- | --- | --- | --- |
| Chapter 2: Era of one party Dominance | With electoral competition after independence, this chapter helps us to understand as to how the concept of free and fair elections was installed in India. It explains about the various reasons of the nature of Congress dominance the first three general elections. | 1. Understanding the reasons behind congresses dominance in the first three general elections.  
2. Analyzing the concept of political parties and their importance.  
3. Introduction to election commission and challenges for them. | 23.3.20 | 30.3.20 | 6 Hours |
| BOOK-I | Chapter 3; US Hegemony In world Politics | The power structure in the world changed again after 1991 when USSR disintegrated. This chapter explains about how USA acted after there was no challenge left and how today it acts as a hegemonic nation. This chapter also explains about its economic, political and cultural | 1. An introduction to the concept of Unipolarity and understanding the rise of USA as a hegemonic nation.  
2. Understanding the POLITICAL, ECONOMIC and CULTURAL manifestations of USA’s hegemony. | 31.3.20 | 8.4.20 | 6 Hours |
| Chapter 4: Alternative Centers of Power | With USA acting as a hegemonic nation and the USSR gone contemporary era saw a phase in which regional organizations like ASEAN, EU and SAARC were formulated and tasted some success. This chapter explains about such organizations and also explains how china today can challenge USA’s hegemonic actions. | 1. Understanding the rise of china as a potential threat to the USA and as a Superpower.  
3. An analysis of India’s changing relationship with china in the contemporary era. | 9.4.20 | 16.4.20 | 8 Hours |
| BOOK-II | This Chapter gives an insight on how india perused the path of economic development and also what development meant to us. This chapter systematically explains what strategy was adopted by the Indian government and why it was changed in the later period. | 1. Understanding the concept of planning and the planning commission.  
2. Understanding the first five year plans and the key controversies.  
3. An analysis of the food crisis and the green revolution. | 17.4.20 | 20.4.20 | 7 Hours |

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| Chapter 4: India’s External Relations | With cold war politics growing along with growing uneasiness with immediate neighbors, India faced a twin challenge of taking care of domestic challenges and foreign affairs. Thus this chapter helps us to understand the basis to Indias foreign policy and also gives an insight about our relationship with our immediate neighbors. | 1. An introduction to Nehru’s foreign policy.  
2. Analyzing the Sino Indian relations.  
3. Analyzing Indo pak relations.  
4. Understanding the concept of NAM.  
5. An introduction to india nuclear policy. | 21.4.20  
27.4.20  
8 Hours |
| Chapter 5: Challenges to the restoration of Congress system | As political competition began more intense, congress found it difficult to retain its dominance as it faced opposition not just from outside but from within the congress itself. Thus this chapter gives us an insight about politics in India after Nehru. | 1. Understanding the congress syndicate and the rift inside the congress party.  
2. Analyzing the reasons behind political earthquake in 1967 and non congressism.  
3. Analyzing the reasons behind growth og Indira Gandhi in 1971. | 28.4.20  
2.5.20  
7 Hours |
| Chapter 6: The Crisis of the democratic order | Congress recovered after 1971 elections under Indira but with this the era of arrogance began, Thus this chapter talks about the emergency and the various perspectives attached with it. | 1. Understanding the background to emergency and popular movements in 1970s.  
2. Understanding the conflict between legislature and judiciary. | 4.5.20  
11.5.20  
7 Hours |
<table>
<thead>
<tr>
<th>Chapter 5: Contemporary South Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOK-I</td>
</tr>
<tr>
<td>1. An introduction to the democratic movements in Pakistan and Bangladesh.</td>
</tr>
<tr>
<td>3. Understanding India’s relationship with its neighbors.</td>
</tr>
<tr>
<td>3. Understanding the reasons behind implementation of emergency and its consequences.</td>
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<tr>
<td>5. Understanding politics post emergency.</td>
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<tr>
<td>This chapter essentially explains the birth of Democracy in South Asia nations and how they have fared till now.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 6: International Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding the need to restructure the UNO.</td>
</tr>
<tr>
<td>2. An introduction to the structural and jurisdictional reforms needed in the UNO.</td>
</tr>
<tr>
<td>3. An analysis of India’s claim at the permanent seat in the UNSC</td>
</tr>
<tr>
<td>The end of first world war saw the birth of league of nations however with WW2 the league failed and made way for UNO. This chapter gives us an introduction to the powers and functions of the world body and also explains about the reforms needed. Here we also learn about how and why India should be given a permanent seat in the UNSC.</td>
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<table>
<thead>
<tr>
<th>Chapter 7: Security in The social contractualist thinkers</th>
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<tbody>
<tr>
<td>1. Understanding the modern</td>
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the Contemporary World

spoke about how important security is for human existence. This chapter deals with the concept of security in the contemporary era and the politics around it.

and traditional concept of security.

2. An introduction the process and policies of disarmament.

3. Understanding the concept of Human and Global security.

4. An introduction to the concept of cooperative security and new sources of threats to human existence.

<table>
<thead>
<tr>
<th>BOOK-II</th>
<th>Chapter 7: Rise of Popular Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>For a long span of time different social groups like Women, Dalits, farmers etc felt alienated from the democratic process. Thus this chapter traces the Journey of some popular movements which developed after 1970.</td>
<td>1. Understanding the concept of popular movements and party based and non-party based movements.</td>
</tr>
<tr>
<td>2. Analyzing in detail about the farmers movement, Women’s movement and developmental movements in India.</td>
<td></td>
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<tr>
<td>3. Understanding the mandal commission and its affects.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 8: Regional Aspirations</th>
<th>Nation Building is a long process but sometimes old problems are not resolved and put on hold. As</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Analyzing the rise of regional parties in India.</td>
<td></td>
</tr>
<tr>
<td>2. Understanding the Punjab</td>
<td>22.7.20 28.7.20 8 Hours</td>
</tr>
</tbody>
</table>
| Chapter 9: Recent Development in Indian Politics | This chapter essentially talks about the modern coalition governments and some communal issues like the Godhra and Ayodhya dispute. Thus this chapter gives us a contemporary viewpoint about the Indian politics. | 1. Understanding the rise of collation governments in India.  
2. Analyzing the rising role of local and regional parties in the national politics. | 30.7.20 | 7.8.20 | 8 Hours |
| BOOK-II | There was a time when politics was based on wars, with the world transforming new and alarming issues are in front of us and Environment is one such issue. This chapter hence gives us an introduction to global politics on the same and also explains concepts like the Global commons and the KYOTO protocol. | 1. Understanding the environment movement and its role in today’s politics.  
2. An introduction to the conflict over common property recourses and their management.  
3. An analysis of the rights of the indigenous people.  
4. An introduction to India’s stand on environmental issues. | 12.8.20 | 19.8.20 | 6 Hours |
| Chapter 9: Globalization | This chapter systematically explains what globalization is | 1. Understanding the concept of globalization. | 23.9.20 | 30.9.20 | 7 Hours |
and also explains about its Political, economic and cultural manifestations. We also get to learn about how it has been fought not only in India but also in the world.

| 2. Understanding the political, economic and cultural impact of globalization. |
| 3. An analysis of the positives and negatives of globalization. |
| 4. An introduction to Anti-Globalization movements in India and Abroad. |
# SUBJECT: MATHS

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/STANDARD/ENDURING UNDERSTANDING</th>
<th>ESSENTIAL STANDARDS/ENDURING UNDERSTANDING</th>
<th>LEARNING TARGETS/OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED NUMBER OF PERIODS/HOURS</th>
</tr>
</thead>
</table>
| Chapter 1 Relation and function                      | • The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes related with types of relation.  
• The student acquires the skill of calculation of domain, range & types of functions. | • Learner will be able to find if the given relation is reflexive, symmetric, transitive or equivalence  
• Learner will be able to distinguish between one to one function & onto function. | 13/2/2020 | 18/2/2020 | 6 HRS |
### Chapter 2. Inverse trigonometric functions
- The student acquires the skill of finding inverse of functions.
- Understand the skill of Calculation of principle value of inverse trigonometric functions.
- Understand the skill to use the identities to solve problems.
- Learner will be able to find principal values like \( \sin^{-1}(1/2) \)
- Learner will be able to prove identities and apply them to solve the problems

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>20/2/20</td>
<td>26/2/20</td>
<td>4HRS</td>
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</tbody>
</table>

### Chapter 5. Continuity and Differentiability
- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes related to chain rule, implicit function and inverse function.
- The student acquires the skill of calculation of derivative of mixed function and higher order derivatives.
- The student acquire the skill of Calculation of derivative of functions using logarithms.
- Application of limits to test continuity of function at a point.
- The student acquires the knowledge of the terms, definition, principles and processes related with Rolles and L.M.V. theorem.
- Learner will be able to find derivative of function
- Learner will be able to test a given function for continuity at a given point.
- Learner will be able to test a given function for applicability of Rolles and L.M.V. theorem for a given interval.

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/2/20</td>
<td>06/03/2020</td>
<td>7HRS</td>
</tr>
<tr>
<td>Chapter 6.</td>
<td>Application of derivatives</td>
<td>Learner will be able to find rate of change of various quantities.</td>
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</tbody>
</table>

- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes related with rate of change.
- The student acquires the skill of calculation of equation of tangents and normals.
- The student is able to relate the sign of derivative with increasing or decreasing functions.
- The student acquires the skill of calculation of approximate value of the function using derivatives.
- The students understand principles and processes related to local maxima and minima.
- Application of maxima and minima to solve word problems.

<table>
<thead>
<tr>
<th>Chapter 13.</th>
<th>Probability</th>
<th>Learner will be able to find P(A/B)</th>
<th>The learner will be able to use Bayes’ theorem.</th>
<th>Learner will be able to find the approximate value of a given function and also find the max or min.</th>
<th>2/4/2020</th>
<th>16/4/2020</th>
<th>9HRS</th>
<th>2</th>
</tr>
</thead>
</table>

- CCSS:S.CP.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or”, “and”, “not”).
S.CP.2 Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. S.CP.3 Understand the conditional probability of A given B as \( P(A \text{ and } B)/P(B) \), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.

- S.CP.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.

- S.CP.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.

- S.MD.1 Define a random variable for a quantity of interest by assigning a numerical value to each event in a to find probability distribution in case of with or without replacement & mean and variance of distribution in case of with or without replacement.
sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.

- S.MD.2 Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
- S.MD.3 Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.
- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of Probability.
- The student acquires the skill of conditional probability.
- The student acquires the skill of finding Probability using Bayes’ theorem
- The student acquires the skill making Probability distribution of random variable.

<table>
<thead>
<tr>
<th>Chapter 12. Linear Programming</th>
<th>Learner will be able to create linear inequations.</th>
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<tbody>
<tr>
<td></td>
<td>learner will be able to draw and find the optimal solutions.</td>
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<tr>
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<td>learner will be able to maximize or</td>
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<td></td>
<td>Done in class 11.</td>
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</tr>
<tr>
<td><strong>CCSS:A-REI 12.</strong> Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. (Both XI and XII.)</td>
<td></td>
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<tr>
<td></td>
<td><strong>CCSS:A-CED 3.</strong> Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods</td>
</tr>
<tr>
<td></td>
<td>minimize the output function.</td>
</tr>
</tbody>
</table>
CCSS: A-REI 7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line \( y = -3x \) and the circle \( x^2 + y^2 = 3 \).
### Chapter 7. Integrals

- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of integration.
- The student acquires the skill of integration by substitution.
- The student acquires the skill of integration of rational functions by division, completing square & by partial fractions.
- The student acquires the skill of integration by parts.
- The student acquires the skill of definite integration by limit of sum.
- The student acquires the skill of integration by change of limit
- The student acquires the skill to integrate using properties of definite integrals.

<table>
<thead>
<tr>
<th>Learner will be able to find integration of rational functions &amp; trigonometric functions</th>
<th>Learner will be able to find integration of mixed functions</th>
<th>Learner will be able to find integration using definite intervals.</th>
<th>Learner will be able to find definite integrals using properties.</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/4/2020</td>
<td>14/5/2020</td>
<td>20 HRS</td>
<td></td>
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</tbody>
</table>

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| Chapter 8. Application of the integrals | • The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of area of bounded region as definite integration. | Learner will be able to find area of bounded region. | 2/7/2020 09/7/2020 10HRS |
| Chapter 9. Differential equations | • The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes formation of differential equations. | Learner will be able to form differential equations by eliminating constant. | 13/7/2020 23/7/2020 10HRS |
| • The student acquires the skill of solving differential equations by | • Learner will be able to solve differential equation of first order. | Learner will be able to solve differential equation of first order as initial value problem. | |
| • Variable separable method | • Learner will be able to solve differential equation of first order. | Learner will be able to solve differential equation of first order as initial value problem. | |
| • homogeneous equation | • Learner will be able to solve differential equation of first order as initial value problem. | Learner will be able to solve differential equation of first order as initial value problem. | |
| • Linear differential equation | | | |
| • The student acquires the skill of calculation of constant of integration using the values given. | | | |
| Learner will be able to form differential equations by eliminating constant. | Learner will be able to solve differential equation of first order. | Learner will be able to solve differential equation of first order as initial value problem. | |
| Learner will be able to solve differential equation of first order as initial value problem. | Learner will be able to solve differential equation of first order as initial value problem. | Learner will be able to solve differential equation of first order as initial value problem. | |
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(e.g., \(v\), \(|v|\), \(|v|\), \(v\)).

**CCSS. N-VM2.** (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.

**CCSS.N-VM3.** (+) Solve problems involving velocity and other quantities that can be represented by vectors.

**CCSS.N-VM4.** (+) Add and subtract vectors.  
a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.  
b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.  
c. Understand vector subtraction \(v - w\) as \(v + (-w)\), where \(-w\) is the additive inverse of \(w\), with the same magnitude as \(w\) and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.

**CCSS.N-VM5.** (+) Multiply a vector by a scalar.  
a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as \(c(vx, vy) = (cvx, cvy)\).  
b. Compute the magnitude
of a scalar multiple $cv$ using $\|cv\| = |c|v$.

Compute the direction of $cv$ knowing that when $|c|v \neq 0$, the direction of $cv$ is either along $v$ (for $c > 0$) or against $v$ (for $c < 0$).

- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of vectors & its magnitude.
- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of unit vectors.
- The student acquires the skill concepts, definition, principles and processes of product of vectors.
- The student acquires the skill of Scalar triple product.
| Chapter 11. Three dimensional geometry | The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of vector equation of line & Cartesian equation of line.  
| | The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes of vector equation of plane & Cartesian equation of plane.  
| | The student acquires the skill of calculation of shortest distance between two lines.  
| | The student acquires the skill of calculation of shortest distance between point & plane.  
| Learner will be able to: | Equation of a line in unique way.  
| | Find angle between two lines, two planes, line and plane.  
| | Find coplanarity of two lines.  
| | Distance of a point and plane.  
| | | 10/8/2020 | 27/08/2020 | 13hrs |
| Revision /Half Yearly/Paper Discussion | 22/8/2020 | 18/09/2020 | 13hrs |
| | Learner will be able to find order of a matrix.  
<p>| | | 21/09/2020 | 28/10/2020 | 21 HRS |</p>
<table>
<thead>
<tr>
<th>CCSS:A-REI 9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater).</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes related with matrices &amp; its order.</td>
</tr>
<tr>
<td>- The student acquires the skill of addition and multiplication of matrices.</td>
</tr>
<tr>
<td>- The students acquire the skill of calculation of inverse of matrix using elementary row transformations.</td>
</tr>
<tr>
<td>Learner will be able to add &amp; multiply matrices</td>
</tr>
<tr>
<td>Learner will be able find inverse of a given 2x2 or 3x3 matrix.</td>
</tr>
<tr>
<td>Solve a problem with three variables using matrices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 3. Determinants</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The student acquires the knowledge of the terms, facts, concepts, definition, principles and processes related with determinants</td>
</tr>
<tr>
<td>- The student acquires the skill of solving of determinants</td>
</tr>
<tr>
<td>- The student acquires the skill of solving of determinants using properties of determinants.</td>
</tr>
<tr>
<td>- The student acquire the skill of calculation of inverse of matrix using cofactors</td>
</tr>
<tr>
<td>Learner will be able find inverse of a given 2x2 &amp; 3x3 matrix using Adjoint of matrix method.</td>
</tr>
<tr>
<td>Learner will be able to solve set of linear equations.</td>
</tr>
</tbody>
</table>
- student acquire the skill of solution of linear equations using inverse of matrix

| Revision, PB1 & Paper discussions | 29/10/2020- 20/11/2020 Revision | 23/11/2020-14/12/2020 preboard I |

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**SUBJECT: PSYCHOLOGY**

<table>
<thead>
<tr>
<th>NAME OF UNIT/CHAPTER</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING TARGETS/OUTCOMES</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF PERIODS/HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chapter 1: Variations in psychological attributes</strong></td>
<td>1. Understand psychological attributes on which people differ from each other. 2. Learn about different methods that are used to assess psychological attributes. 3. Explain what constitutes</td>
<td>1. Describe how intelligence is viewed by a lay person 2. Define and compare how psychologists view intelligence. 3. Describe how various cultures view intelligence. 4. List the aspects that are important according to Indian culture to be regarded as intelligent.</td>
<td>13 Feb</td>
<td>25 March</td>
<td>22 hours</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Title</th>
<th>1. Describe the concept of self and learn some ways for self-&lt;br&gt;intelligence</th>
<th>1. List the qualities that make up the personality</th>
<th>27 March</th>
<th>29 March</th>
<th>21 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Theories of intelligence&lt;br&gt;- Individual differences in intelligence&lt;br&gt;- Culture and intelligence&lt;br&gt;- Emotional intelligence&lt;br&gt;- Special abilities&lt;br&gt;- Creativity</td>
<td>intelligent behavior&lt;br&gt;4. Learn how psychologists assess intelligence to identify mentally challenged and gifted individuals.&lt;br&gt;5. Understand how intelligence has different meaning in different cultures.&lt;br&gt;6. Understand the difference between intelligence and aptitude.</td>
<td>5. Compare and contrast the theories of intelligence.&lt;br&gt;6. List the intelligences that you as an individual have found to correlate to Gardeners theory of intelligence.&lt;br&gt;7. Recognize and define the various levels of mental retardation.&lt;br&gt;8. List the characteristics of mentally gifted children.&lt;br&gt;9. Explain the role of nature and nurture in building intelligence.&lt;br&gt;10. Lists the various types of tests and there uses.&lt;br&gt;11. List the various assessment methods and how can these methods be used to assess intelligence.&lt;br&gt;12. Analyze and explain how creativity can be enhanced.&lt;br&gt;13. Compare aptitude, interest and intelligence.</td>
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<tr>
<td>and personality aspects of self</td>
<td>regulation of behavior.</td>
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</tr>
<tr>
<td>Cognition and behavioral aspects of self (self-esteem, self-efficacy, self-regulation)</td>
<td>2. Explain the concept of personality.</td>
<td></td>
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<tr>
<td>Culture and self</td>
<td>3. Differentiate between various approaches to the study of personality.</td>
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<tr>
<td>Concept of personality</td>
<td>4. Develop insight into the development of a healthy personality.</td>
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<tr>
<td>Major approaches to the study of personality</td>
<td>5. Describe some techniques for personality assessment.</td>
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</table>

**Chapter 3: Meeting life challenges**

1. Understand the nature, types and sources of stress as
2. Define stress.
3. List the characteristics of stress.
4. Explain the various sources of stress.

<p>| 17 July  | 29 July  | 15 hours |</p>
<table>
<thead>
<tr>
<th>Stress</th>
<th>Life Challenges</th>
<th>Stress</th>
<th>Life Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of stress</td>
<td>2. Examine the effects of stress on psychological functioning</td>
<td>Differentiate between eustress and distress.</td>
<td>4. Differentiate between eustress and distress.</td>
</tr>
<tr>
<td>Sources of stress</td>
<td>3. Learn ways to cope with stress</td>
<td>Critically evaluate the general adaptation theory.</td>
<td>5. Critically evaluate the general adaptation theory.</td>
</tr>
<tr>
<td>Examination anxiety</td>
<td>5. Understand the factors that promote positive health and well-being.</td>
<td>List the life skills that promote positive health.</td>
<td>7. List the life skills that promote positive health.</td>
</tr>
<tr>
<td>Coping with stress</td>
<td></td>
<td>Describe the strategies that help manage stress.</td>
<td>8. Describe the strategies that help manage stress.</td>
</tr>
<tr>
<td>Promoting positive health and well-being</td>
<td></td>
<td>Define coping and the various types of coping and individual uses.</td>
<td>9. Define coping and the various types of coping and individual uses.</td>
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<td></td>
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<td>10. How does stress affect the immune system?</td>
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<td>11. What is examination anxiety?</td>
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<td>12. Explain the effects of stress on psychological functioning.</td>
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<td>13. Differentiate between adaptation and adjustment.</td>
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<td></td>
<td>14. What values will you incorporate to become a better human being.</td>
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<td>15. Reflect on the environmental...</td>
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</table>
Chapter 4: Psychological Disorders
- Concepts of abnormality and psychological disorders
- Classification of psychological disorders
- Factors underlying abnormal behavior
- Major psychological disorders

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<tr>
<td>1. Understand the basic issues in abnormal behavior and the criteria used to identify such behaviors.</td>
<td>1. Define abnormal behavior.</td>
<td>30 Apr</td>
</tr>
<tr>
<td>2. Appreciate the factors which cause abnormal behavior.</td>
<td>2. What are the key characteristics under abnormality.</td>
<td>15 May</td>
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<tr>
<td>3. Explain the different models of abnormal behavior.</td>
<td>3. List the various psychological disorders.</td>
<td>25 hours</td>
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<tr>
<td>4. Describe the major psychological disorders.</td>
<td>4. Differentiate between ICD 10 and DSM IV.</td>
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</tbody>
</table>

Define burnout and explain how a stress resistance personality can resist burnout.
12. What are some of the major treatment modalities for psychological disorders.
13. Is the prognosis for psychological disorders good? Comment.

**Chapter 5: Therapeutic approaches**
- Nature and process of psychotherapy
- Therapeutic relationship
- Types of therapies:
  - Psychodynamic therapy
  - Behavior therapy
  - Relaxation procedures
  - Cognitive therapy
  - Humanistic existential therapy
  - Biomedical therapy
  - Alternative therapy

1. Familiarize with the basic nature and process of psychotherapy.
2. Appreciate that there are different types of therapies for helping people.
3. Understand the use of psychological forms of intervention.
4. Know how people with mental disorders can be rehabilitated.
5. What is therapy?
6. What is the difference between therapy and counseling?
7. How does one formulate the steps for therapy?
8. Using examples explain the criteria for selecting a therapy.
9. Critically evaluate the therapies and their application.
10. Using a case study explain the ethics in therapy.
11. Differentiate between conventional and alternative forms of therapy.
12. What is the basic premise of alternative form of therapies?
13. What are the factors contributing to

<table>
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<tr>
<th>3 July</th>
<th>16 July</th>
<th>20 hours</th>
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therapies
- Rehabilitation of the mentally ill

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<th>Chapter 6: Attitude and Social Cognition</th>
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<tbody>
<tr>
<td>- Explaining social behavior</td>
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<tr>
<td>- Nature and components of attitudes</td>
</tr>
<tr>
<td>- Attitude formation and change</td>
</tr>
<tr>
<td>- Prejudice and Discrimination</td>
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<tr>
<td>- Strategies for handling prejudice</td>
</tr>
<tr>
<td>- Social cognition</td>
</tr>
<tr>
<td>- Schemas and stereotypes</td>
</tr>
<tr>
<td>- Impression formation and explaining</td>
</tr>
<tr>
<td>- Behavior of others through attributions</td>
</tr>
<tr>
<td>1. Understand what are attitudes, how they are formed and changed.</td>
</tr>
<tr>
<td>2. Analyze how people interpret and explain the behavior of others.</td>
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<tr>
<td>3. Comprehend how the presence of others influences our behavior.</td>
</tr>
<tr>
<td>4. Explain why people help or do not help others in distress.</td>
</tr>
<tr>
<td>5. Understand the concept of pro-social behavior and factors affecting it.</td>
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<tr>
<td>1. Define attitude and give the characteristics of attitude.</td>
</tr>
<tr>
<td>2. Explain using examples the ABC theory of attitude.</td>
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<tr>
<td>3. How are attitudes formed.</td>
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<td>4. Using appropriate examples explain the theories of attitude change.</td>
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<td>5. Explain the concept of social facilitation.</td>
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<td>6. List the reasons why social loafing occurs.</td>
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<tr>
<td>7. Explain pro-social behavior.</td>
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<tr>
<td>8. Describe the factors that facilitate impression formation.</td>
</tr>
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<td>9. What is the relationship between attitude and behavior.</td>
</tr>
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<td>10. Elaborate on strategies to reduce prejudice.</td>
</tr>
<tr>
<td>11. What is the difference between prejudice and discrimination.</td>
</tr>
<tr>
<td>12. What is social cognition</td>
</tr>
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<td>13. What is social behavior?</td>
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<tr>
<td>14. Explain the concept of attribution.</td>
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<th>Start Date</th>
<th>End Date</th>
<th>Duration</th>
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<tr>
<td>30 July</td>
<td>18 August</td>
<td>22 hours</td>
</tr>
</tbody>
</table>
- Behavior in the presence of others
- Pro-social behavior

| 15. What are some of the factors involved in attitude change? |
| 16. What is the difference between primacy and recency effect. |

### Chapter 7: Social influence and group processes

- Nature and formation of groups
- Types of groups
- Influence of group on individual behavior
- Conformity, compliance and obedience
- Cooperation and competition
- Social identity
- Intergroup conflict
- Conflict resolution strategies

| 1. Understand the nature and types of groups and know how they are formed. |
| 2. Examine the influence of group on individual behavior. |
| 3. Describe the process of cooperation and competition. |
| 4. Reflect on the importance of social identity. |
| 5. Understand the nature of intergroup conflict and examine conflict resolution strategies. |
| 1. Define groups and lists its characteristics. |
| 2. Differentiate between group, team and crowd. |
| 3. Discuss the various types of group and their usefulness. |
| 4. Using appropriate examples explain the formation of groups. |
| 5. What are the factors that contribute to the formation of groups? |
| 6. What is group think. |
| 7. What is social loafing |
| 8. Differentiate between cooperation and competition. |
| 9. Differentiate between conformity, compliance and obedience. |
| 10. Explain the Asch and Sheriff experiment in conformity and compliance. |
| 11. What is intergroup conflict. |
| 12. What are the factors that contribute to the formation of groups? |

| 19 Aug | 2 Sept | 20 hours |
13. What are some of the conflict resolution strategies.
14. What is social identity?

**Chapter 8: Psychology and Life**

1. Understand how psychology can be applied to common problems in our lives.
2. Appreciate the relationship between human beings and the environment.
3. Analyze, how pro environmental behavior helps to deal with environmental stressors.
4. Explain the causes and consequences of social problems from a psychological perspective.
5. Learn about the possible remedies of problems such as poverty, aggression and health.

1. Explain the relationship between the environment and humans.
2. What are some of the views that reflect this relationship.
3. What are the environmental effects on human behavior.
4. Explain the role noise, pollution and crowding play in effecting human behavior.
5. Define personal space.
7. Explain some of the strategies in dealing with aggression.
8. Write a note on poverty and deprivation.
10. What are some of the measures to alleviate poverty.
11. What’s the impact of television on behavior?

<table>
<thead>
<tr>
<th>Chapter 9:</th>
<th>1. Understand the need to</th>
<th>1. What is counseling?</th>
<th>15 May</th>
<th>20 May</th>
<th>15 hours</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Developing psychological skills</th>
<th>develop skills among psychologists.</th>
<th>2. What are the ethics involved in counseling?</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Developing as an effective psychologist</td>
<td>2. Describe the basic aspects of observational skills.</td>
<td>3. Elaborate on the skills used to be an effective counselor.</td>
</tr>
<tr>
<td>- General skills</td>
<td>3. Know the significance of developing communication skills.</td>
<td>4. What is the role and function of a school counselor.</td>
</tr>
<tr>
<td>- Observational skills</td>
<td>4. Understand the importance of psychological testing skills in individual assessment and explain the nature and process of counselling.</td>
<td>5. How can psychology aid in making better managers?</td>
</tr>
<tr>
<td>- Specific skills</td>
<td>6. What is the importance of psychological testing.</td>
<td>7. Critically evaluate interviewing skills.</td>
</tr>
<tr>
<td>- Interviewing skills</td>
<td>7. List the methods through which listening skills can be improved.</td>
<td>8. Mention the characteristics of an effective helper.</td>
</tr>
<tr>
<td>- Counselling skills</td>
<td>9. What is the process involved in counseling?</td>
<td>10. How can psychology aid in making better managers?</td>
</tr>
</tbody>
</table>

- Develop as an effective psychologist
- General skills
- Observational skills
- Specific skills
- Interviewing skills
- Counselling skills

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<table>
<thead>
<tr>
<th>NAME OF UNIT/CHAPTER</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING OBJECTIVES/TARGETS</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF PERIODS/HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality and Safety, Food Science Technology)</td>
<td>To learn about food safety and quality checking of food products.</td>
<td>1. I can define “Food Adulteration” and name common adulterants present in food 2. I can list the effect of adulterated food on health. 3. I can demonstrate the simple tests for detection of various food adulterants. 4. I can discuss the importance of Standardization marks.</td>
<td>13.02.2020</td>
<td>21.02.2020</td>
<td>6</td>
</tr>
<tr>
<td>Design for Fabric and Apparel</td>
<td>1. To understand the elements of art and principles of design. 2. To learn the application of elements and principles in dress designing.</td>
<td>1. I can list the types of lines can be found in dresses and discuss their effect. 2. I can explain the effect of lines, texture, color and pattern on physique. 3. I can elaborate with examples the meaning of</td>
<td>24.02.2020</td>
<td>02.03.2020</td>
<td>6</td>
</tr>
<tr>
<td>Subject</td>
<td>Learning Outcomes</td>
<td>03.03.2020</td>
<td>17.03.2020</td>
<td>6</td>
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</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
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</tr>
</tbody>
</table>
| Consumer Education and Protection (Unit V: Resource Management) | 1. To acquire knowledge about consumer education and protection.  
   2. I can describe the role and responsibilities.  
   3. I can elaborate the main features of Consumer Protection Act 2011.  
   4. I can write down the procedure for seeking redressal under Consumer Protection Act. | 18.03.2020 | 20.05.2020 | 40 |

| Unit II: Nutrition, Food Science              | 1. To understand and integrate scientific knowledge and principles of nutrition, food science, and human health.  
   2. I can design a dress for the given body type/ feature keeping in mind elements/principles of design.  
   5. I can suggest ways of creating harmony, emphasis, balance, proportion and rhythm in a dress.  
   6. I can illustrate the use of elements/principles of design on different types of garments. | 03.03.2020 | 17.03.2020 | 6 |
<table>
<thead>
<tr>
<th>Technology</th>
<th>1. To describe the significance and scope of clinical nutrition and dietetics.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. To understand the significance of public nutrition</td>
<td>2. To explore the knowledge and skills required for a career in clinical nutrition and dietetics.</td>
</tr>
<tr>
<td>3. To understand the need for developing knowledge and different skills to become food service professionals.</td>
<td>3. To be aware of nutritional problems of public health significance</td>
</tr>
<tr>
<td>4. To become aware of the scope for self-employment as small, medium or large-scale entrepreneurs.</td>
<td>4. To list the factors that are linked to nutritional problems</td>
</tr>
<tr>
<td>5. To list the factors that are linked to nutritional problems</td>
<td>5. To describe strategies that can be used to tackle nutritional problems</td>
</tr>
<tr>
<td>6. To be acquainted with the programs that are in operation to tackle important nutritional problems.</td>
<td>6. To be acquainted with the programs that are in operation to tackle important nutritional problems.</td>
</tr>
<tr>
<td>7. To know the different types of catering and food services, and the types of services used in the industry.</td>
<td>7. To know the different types of catering and food services, and the types of services used in the industry.</td>
</tr>
<tr>
<td>8. To be acquainted with the scope of the field of catering and food service management, and the career avenues available.</td>
<td>8. To be acquainted with the scope of the field of catering and food service management, and the career avenues available.</td>
</tr>
<tr>
<td>9. To define food processing</td>
<td>9. To define food processing</td>
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</tr>
<tr>
<td>10.</td>
<td>To explore about the history, development and present status of food processing in India</td>
</tr>
<tr>
<td>11.</td>
<td>To be aware of the skills required to be a professional food technologist</td>
</tr>
<tr>
<td>12.</td>
<td>To be aware of the career opportunities available and educational qualifications required for specific careers in the industry</td>
</tr>
<tr>
<td>13.</td>
<td>To explain the importance of various issues related to food safety and quality</td>
</tr>
<tr>
<td>14.</td>
<td>To understand how food-borne illnesses occur and know about national and international food standards and their role in ensuring food quality and safety</td>
</tr>
<tr>
<td>15.</td>
<td>To understand the importance of food safety management systems</td>
</tr>
<tr>
<td>16.</td>
<td>To be acquainted with various career avenues / options in this area.</td>
</tr>
</tbody>
</table>

<p>| livelihood and attitudes and approaches |   |   |   |   |   |
| 1. | To define the terms | 01.07.2020 | 08.07.2020 |   | 6 |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To contribute to quality of work and successful careers.</td>
<td>meaningful work, livelihood, careers and entrepreneurship.</td>
</tr>
<tr>
<td>2.</td>
<td>To elaborate on the concepts of standard of living and quality of life.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>To realize the importance of social responsibility and volunteerism.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>To be able to list the issues of work in relation to traditional occupations and special groups namely women, children and elderly.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>To describe the characteristics of a healthy work environment</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To acquaint the learner about ways to prepare for a career in the field of Fabrics and Apparels.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>To understand the significance of care and maintenance of fabrics and textile products</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>To explain the significance of fashion design and merchandising in garment industry</td>
<td>09.07.2020</td>
</tr>
<tr>
<td>4.</td>
<td>To describe the fundamentals of fashion</td>
<td>31.07.2020</td>
</tr>
<tr>
<td>5.</td>
<td>To understand the significance of mass production of apparel</td>
<td>17</td>
</tr>
<tr>
<td>6.</td>
<td>To describe the stages and systems of mass production</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>To identify the fabric and garment defects before and</td>
<td></td>
</tr>
</tbody>
</table>

Page 106 of 173
<table>
<thead>
<tr>
<th>Unit V: Resource Management</th>
<th>To acquire knowledge about the functioning of food and beverage departments of the hospitality industry</th>
<th>To describe the concept of Human Resource Management</th>
<th>03.08.2020</th>
<th>21.08.2020</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To gain knowledge about the various career opportunities available in the field of Resource Management</td>
<td>To discuss the importance of Human Resource Management</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>To list the functions of Human Resource Management Professionals</td>
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<tr>
<td></td>
<td></td>
<td>To identify qualities required by a successful HR professional.</td>
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<tr>
<td></td>
<td></td>
<td>To explain the importance of hospitality management</td>
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<tr>
<td></td>
<td></td>
<td>To describe the functioning of housekeeping department</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>To discuss the functioning of front office in hospitality industry</td>
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<td></td>
</tr>
</tbody>
</table>

**Unit III: Human Development**

<table>
<thead>
<tr>
<th>To acquire knowledge about skills and</th>
<th>To describe the concepts</th>
<th>22.09.2020</th>
<th>05.11.2020</th>
<th>25</th>
</tr>
</thead>
</table>
Family Studies  |  To understand the importance of services, institutions and programs for children, youth and elderly  |  To understand the importance of special education, inclusive education and support services.  
2. To describe the concept of disability and different types of disability in children.  
3. To describe the aspects involved in management of institutions and programs  
4. To discuss the knowledge base and skills set required to manage and run institutions and programs  
5. To become aware of the career opportunities available in this field.

Communication and Extension  |  To understand the importance of development communication and journalism for social change and development  |  To identify the skills required for a career in communication and journalism  
To comprehend the scope of this discipline and the career options available.  
To know the importance of Media Planning and Media Management  
To understand the process and scope of Behaviour Change Communication (BCC) strategy  
To get introduced to the procedures of media research,

|  |  | 06.11.2020 | 15.11.2020 | 9 |
media design and development,
media production.

### SUBJECT: COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>NAME OF UNIT/CHAPTER</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING TARGETS/OUTCOMES</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Course overview</td>
<td>• Developing a basic understanding of the course</td>
<td>• Understand and appreciate the course contents of the subject. • Appreciate the need of revised course contents</td>
<td>13/02/2020</td>
<td>14/02/2020</td>
<td>2</td>
</tr>
</tbody>
</table>

**Unit I: Computational Thinking and Programming**

<table>
<thead>
<tr>
<th>NAME OF UNIT/CHAPTER</th>
<th>ESSENTIAL STANDARDS</th>
<th>LEARNING TARGETS/OUTCOMES</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Revision of the Basics of Python</td>
<td>• Revisiting the concepts learnt in class 11</td>
<td>• Interpret and infer the Computational Thinking and Programming concepts through programming constructs. • Building a strong understanding of the</td>
<td>15/02/2020</td>
<td>29/02/2020</td>
<td>8</td>
</tr>
<tr>
<td>Functions:</td>
<td>File handling:</td>
<td></td>
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</tr>
<tr>
<td>- scope, parameter passing,</td>
<td>- Need for a data file,</td>
<td></td>
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</tr>
<tr>
<td>- mutable/immutable properties of data objects, pass arrays to functions, return values,</td>
<td>- Types of file: Text files, Binary files and CSV (Comma separated values) files.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- functions using libraries: mathematical, and string functions.</td>
<td>- Text File:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- Understand the creation of user-defined functions</td>
<td>- Requirement of storage of data and how it facilitates information gathering and retrieval</td>
<td></td>
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</tr>
<tr>
<td>- Recognize the different components of a function: return type, arguments, body of function</td>
<td>- Create and execute simple programs which can store and retrieve information saved in text files or binary files</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>- Identify the scope of different variables and classify them in storage classes</td>
<td>- Illustrate the use of modular programming</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- Design modular program by writing user defined functions for different functional components of a python program</td>
<td>- Create and execute modular programs</td>
<td></td>
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</tr>
<tr>
<td>- Illustrate the scope of different variables in and outside the function; global and local variables</td>
<td>- State outputs of program codes with variables of different storage class specification</td>
<td></td>
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</tbody>
</table>

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<thead>
<tr>
<th>Date</th>
<th>Date</th>
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<tbody>
<tr>
<td>01/03/2020</td>
<td>15/03/2020</td>
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<tr>
<td>16/03/2020</td>
<td>12/04/2020</td>
</tr>
</tbody>
</table>

Page 110 of 173
- Basic operations on a text file:
  - Open (filename – absolute or relative path, mode) / Close a text file,
  - Reading and Manipulation of data from a text file,
  - Appending data into a text file, standard input / output and error streams,
  - relative and absolute paths.

  **Binary File:**
  - Basic operations on a binary file:
    - Open filename – absolute or relative path, mode)
    - Close a binary file,
    - File Operations
  - **Pickle Module** – methods load and dump;
    - Read, Write/Create, Search,
    - Append, Update and Delete operations in a binary file.

- Appreciate the need of data files and understand difference between data file and binary file
- Compare and interpret various methods for reading, writing and performing applications on a data set extracted from disk files

- programs which can store and perform different operations on records retrieved from a CSV file or SQL Query
- Carry out and implement algorithms designed for data extraction and application using Pickle module
### CSV File:
- Import csv module, functions - Open / Close a csv file,
- Read from a csv file and
- Write into a csv file using csv.reader() and csv.writerow().

### Using Python libraries:
- create and import Python libraries.
- Interpret the working of libraries.
- Appreciate the need of creating libraries in real time project applications.
- Create user defined libraries and use them in programs.
- Display the use functions defined in already created libraries and use the same in self-created programs.

### Recursion:
- simple algorithms with recursion:
  - print a message forever,
  - sum of first n natural numbers,
  - factorial,
  - Fibonacci numbers;
  - recursion on lists:
- Familiarize with the nature of recursive function and application areas.
- Generate recursive functions for various algorithms such as Bubble Sort, Insertion Sort, Selection Sort and Binary Search.
- Understand about the memory allocation using recursion.
- Illustrating solving a
<table>
<thead>
<tr>
<th>Sorting and Searching algorithms</th>
<th>problem with recursion is cleaner and easier to implement when done iteratively</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Idea of efficiency:</strong></td>
<td></td>
</tr>
<tr>
<td>• performance measurement in terms of the number of operations.</td>
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<tr>
<td>• Understand the scenarios based on the usage of various algorithms</td>
<td></td>
</tr>
<tr>
<td>• Illustrate the use of Big O notation to understand the usage of multiple algorithms</td>
<td></td>
</tr>
<tr>
<td>• Identify the best- and worst-case scenarios</td>
<td></td>
</tr>
<tr>
<td>27/04/2020</td>
<td>30/04/2020</td>
</tr>
<tr>
<td>• <strong>Data-structures:</strong></td>
<td></td>
</tr>
<tr>
<td>• Lists as covered in Class XI,</td>
<td></td>
</tr>
<tr>
<td>• Stacks – Push, Pop using a list,</td>
<td></td>
</tr>
<tr>
<td>• Queues – Insert, Delete using a list.</td>
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</tr>
<tr>
<td>• Identify different ways in which data can be stored in a computer’s memory and their real-life analogies</td>
<td></td>
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<tr>
<td>• Appreciate and recognize the uniqueness of each data structure</td>
<td></td>
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<tr>
<td>• Critically analyze and suggest suitable data structure to be implemented for a given problem</td>
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<tr>
<td>• Identify the need of list</td>
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<tr>
<td>• List the benefits of using list</td>
<td></td>
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<tr>
<td>• Create and execute simple programs for managing a list</td>
<td></td>
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<tr>
<td>• Create and execute programs with Stacks implemented as lists</td>
<td></td>
</tr>
<tr>
<td>• Create and execute programs with recursive function like factorial and Fibonacci series</td>
<td></td>
</tr>
<tr>
<td>• Create and execute programs to with queues implemented as lists</td>
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<td>01/05/2020</td>
<td>06/05/2020</td>
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</tbody>
</table>
## UNIT II: Data Management

### Interface of Python with an SQL database
- Connecting SQL with Python. Creating Database connectivity
- Applications
  - Performing Insert, Update, Delete queries.
  - Display data by using fetchone(), fetchall(), rowcount()
- Writing, debugging and executing Python Programs using MySQL connectivity
- Understand the notion of Iterative computation
- Critically evaluate a program and predict the outputs of various programs
- Developing mini projects for various case studies
- Generating User reports for case studies using f-string formatting

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<tbody>
<tr>
<td>07/05/2020</td>
<td>01/08/2020</td>
<td>09/08/2020</td>
<td>17/05/2020</td>
<td>09/08/2020</td>
<td>10/04</td>
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<td>01/07/2020</td>
<td>15/07/2020</td>
<td>6</td>
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</tbody>
</table>

### Database Concepts:
- Introduction to database concepts and its need
- **Relational data model:**
  - Concept of domain, relation, tuple, attribute, degree, cardinality
  - Key: primary key, candidate key, alternate key and foreign key
- Requirement of storage of data and how it facilitates information gathering and retrieval
- Understand the concept of normalization
- Explore and identify the need of database
- Identify the entities, attributes and relations in real world
- Explain the meaning of different terms used in Relational database management system
- State the operations on a relation in symbols and syntax of Relational Algebra

<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>01/07/2020</td>
<td>15/07/2020</td>
<td>6</td>
</tr>
<tr>
<td>Structured Query Language:</td>
<td>Requirement of storage of data and how it facilitates information gathering and retrieval</td>
<td>Illustrate the creation of database using different datatypes and constraints</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>General Concepts:</td>
<td>Identify and compare advantages and disadvantage of multiple database schemas</td>
<td>Identify the different operation performed on a relation and categorize the command required in different types of languages</td>
</tr>
<tr>
<td>Advantages of using SQL,</td>
<td></td>
<td>Identifying different keys in different tables of a database</td>
</tr>
<tr>
<td>Data Definition Language</td>
<td></td>
<td>Implement the concept of referential integrity</td>
</tr>
<tr>
<td>Data Manipulation Language;</td>
<td></td>
<td>Insert and manipulate records in a table</td>
</tr>
<tr>
<td>Data Types:</td>
<td></td>
<td>Generate queries for possible data extraction problem statements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13/07/2020  31/07/2020  12</td>
</tr>
<tr>
<td>number / decimal, character / varchar / varchar2, date;</td>
<td></td>
<td>13/07/2020  31/07/2020  12</td>
</tr>
<tr>
<td>SQL commands:</td>
<td>CREATE TABLE, DROP TABLE, ALTER TABLE, UPDATE ...SET..., INSERT, DELETE; SELECT, DISTINCT, FROM, WHERE, IN, BETWEEN, LIKE, NULL / IS NULL, ORDER BY, GROUP BY, HAVING;</td>
<td>13/07/2020  31/07/2020  12</td>
</tr>
<tr>
<td>SQL functions:</td>
<td>SUM (), AVG (), COUNT (), MAX () and MIN ();</td>
<td>13/07/2020  31/07/2020  12</td>
</tr>
<tr>
<td>joins:</td>
<td>equijoin and natural</td>
<td>13/07/2020  31/07/2020  12</td>
</tr>
</tbody>
</table>
### UNIT III: Computer Networks Society, Law and Ethics

- **Evolution of Networking:**
  - ARPANET, Internet, Interspace
  - Different ways of sending data across the network with reference to switching techniques (Circuit and Packet switching).

- **Data Communication terminologies:**
  - Concept of Channel,
  - Bandwidth (Hz, KHz, MHz) and
  - Data transfer rate (bps, Kbps, Mbps, Gbps, Tbps).

- **Transmission media:**
  - Twisted pair cable,
  - coaxial cable,
  - optical fiber,
  - infrared,
  - radio link,
  - microwave link and

- **Understand the concept of Networking design for a LAN**
- Identify various network components required for a LAN design
- Build understanding around the issues and consequences related to acceptable and responsible use of technology.

- **List the advantages of Networking**
- Design the layout of a network for a given case study along with the placement of server, transmission media, network and topology to be used
- Describe different security issues in a network along with reasons and their solutions
- Differentiate between Open Source Software and Freeware
- List and explain advantages and disadvantages of different topologies
- Design network solutions for case studies

<table>
<thead>
<tr>
<th>Date</th>
<th>16/09/2020</th>
<th>20/09/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 116 of 173</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
- satellite link.
- **Network Topologies and types:**
  - Bus, Star, Tree,
  - Types of Network:
    - PAN, LAN, WAN, MAN.

- **Network devices:**
  - Modem, RJ45 connector, Ethernet Card, Router, Switch, Gateway, WiFi card,
  - AM & FM,
  - CSMA/CA & CD,
  - Error Checking,
  - Idea of Routing,
  - Network Congestion

<table>
<thead>
<tr>
<th>Mobile Telecommunication Technologies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1G, 2G, 3G, 4G and 5G;</td>
</tr>
<tr>
<td>- Mobile processors;</td>
</tr>
<tr>
<td>- Electronic mail protocols such as SMTP, POP3, Protocols for Chat and Video Conferencing: VoIP, Wireless</td>
</tr>
</tbody>
</table>

- Acquire working knowledge of interconnected devices and their layout pattern.
- List out multiple modes of connecting devices.
- Identify the use and purpose of routing data via multiple techniques.

- Recognize the latest IT trends
- Illustrate safely communicating data using secure connections, eavesdropping, phishing and identity verification

<p>| 21/09/2020 | 24/09/2020 | 2 |
| 25/09/2020 | 30/09/2020 | 2 |</p>
<table>
<thead>
<tr>
<th>Technologies such as WiFi and WiMax</th>
<th>Network Security Concepts:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Summarize and appreciate the need of cyber Laws.</td>
<td>• Threats and prevention from Viruses, Worms, Trojan horse, Spams.</td>
</tr>
<tr>
<td>• Research and describe on topics allotted and present the topics in class for better absorption of contents</td>
<td>• Use of Cookies,</td>
</tr>
<tr>
<td>• Review and understand the problems in society</td>
<td>• Protection using Firewall, https;</td>
</tr>
<tr>
<td></td>
<td>• India IT Act, Cyber Law, Cyber Crimes,</td>
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<td></td>
<td>• IPR issues,</td>
</tr>
<tr>
<td></td>
<td>• hacking.</td>
</tr>
<tr>
<td>Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying</td>
<td>Appropriately usage of social networks: spread of rumors, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules.</td>
</tr>
<tr>
<td>Safely accessing websites: adware, malware, viruses, Trojans</td>
<td>Safely accessing websites: adware, malware, viruses, Trojans</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Introduction to Web services:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• WWW,</td>
</tr>
<tr>
<td>• Hyper Text Markup Language (HTML), Extensible Markup Language (XML);</td>
</tr>
<tr>
<td>• Hyper Text Transfer Protocol (HTTP);</td>
</tr>
<tr>
<td>• Domain Names; URL;</td>
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</tbody>
</table>

| 01/10/2020 | 07/03/2020 | 3 |
| 08/10/2020 | 08/10/2020 | 1 |

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<table>
<thead>
<tr>
<th><strong>Website, Web browser, Web Servers; Web Hosting,</strong></th>
<th><strong>Internet and WWW</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Web Scripting – Client side (VB Script, JavaScript, PHP) and Server side (ASP, JSP, PHP),</td>
<td>• Develop the understanding of the client/Server environment for data transactions</td>
<td></td>
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<tr>
<td>• Web 2.0 (for social networking)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>E-commerce payment</strong></th>
<th><strong>Describe the potential risk and dangers associated with online communication</strong></th>
<th><strong>Comprehend the possible societal Impact of IT using multiple mode of retail payment and services</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• transactions using online banking, mobile banking, payment apps and services.</td>
<td></td>
<td>09/10/2020 09/10/2020 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Final Term Project</strong></th>
<th><strong>Consolidate the problem-solving tools and methodology learnt in a project</strong></th>
<th><strong>Create Year-end Application project using Python and MySQL Database/CSV File/Text File</strong> <strong>Learn and present application of all concepts learnt during the academic year</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>18/05/2020 12/06/2020 16/08/2020 18/10/2020 30/11/2020 01/11/2020</td>
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<tr>
<td></td>
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<td>24/05/2020 01/06/2020 10/08/2020 12/10/2020 01/11/2020 12/06/2020 16/08/2020 18/10/2020 30/11/2020</td>
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<td>4 10 4 4 3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Revision Tests</strong></th>
<th><strong>Review of all concepts learnt in academic year</strong></th>
<th><strong>Revision Tests</strong> <strong>Mock Tests (concept wise)</strong></th>
</tr>
</thead>
<tbody>
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</table>
## SUBJECT: FASHION STUDIES

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>Enduring understanding</th>
<th>LEARNING OUTCOME</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF PERIODS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chapter 1: History of Fashion</strong></td>
<td>i. To explain the importance of history as a source of research on fashion ii. To provide an overview of history of fashion from ancient civilization to the present century iii. To explain the socio-cultural factors influencing costume iv. To familiarize students with the terminology of the fashion history</td>
<td>After completion of the unit, the students shall be able to do the following: i. Explain the significance of studying fashion history as a source of research for developing new collections ii. Express their knowledge of history of clothing and costume iii. Express their understanding of the role of multiple factors influencing costume iv. Express their understanding of the effect of Industrial Revolution on clothing Industrial Revolution v. Use appropriate terminology related to fashion history</td>
<td>30/03/20</td>
<td>20/04/20</td>
<td>20 periods</td>
</tr>
</tbody>
</table>
### Chapter 3: Elements of Fashion

<table>
<thead>
<tr>
<th>i. Menswear, womenswear and kidswear</th>
<th>ii. Menswear - shirts, trousers, formal jackets, suit and sporty suit</th>
<th>iii. Womenswear - dresses, blouses, skirts, trousers, kameezes, saris &amp; blouses</th>
<th>iv. Kids wear - garments for different age categories (between 0-15) 'jhabla' frocks, skirts, blouses, trousers, dungarees, T-shirts highlighting the requirements of the age group for which they are designed.</th>
<th>v. Trims used for the fashion apparel</th>
<th>vi. High fashion - custom made and ready to wear garments</th>
<th>vii. Mass fashion - ready to wear garments</th>
</tr>
</thead>
<tbody>
<tr>
<td>To introduce students to the basic segments in fashion clothing</td>
<td>To teach students about fashion, fashion centres, categories of clothing &amp; trims.</td>
<td>To sensitize students about different items of garments in each category i.e. menswear, womenswear and childrenswear</td>
<td>To teach students the difference between high fashion and mass fashion</td>
<td>To distinguish between custom made &amp; ready to wear</td>
<td>After finishing the course, the students shall be able to do the following:</td>
<td>21/4/20</td>
</tr>
<tr>
<td>i. Menswear - shirts, trousers, formal jackets, suit and sporty suit</td>
<td>ii. Menswear - shirts, trousers, formal jackets, suit and sporty suit</td>
<td>iii. Womenswear - dresses, blouses, skirts, trousers, kameezes, saris &amp; blouses</td>
<td>iv. Kids wear - garments for different age categories (between 0-15) 'jhabla' frocks, skirts, blouses, trousers, dungarees, T-shirts highlighting the requirements of the age group for which they are designed.</td>
<td>v. Trims used for the fashion apparel</td>
<td>vi. High fashion - custom made and ready to wear garments</td>
<td>vii. Mass fashion - ready to wear garments</td>
</tr>
<tr>
<td>Chapter 4: Basics of Garment Making</td>
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<tr>
<td>i. Understanding fabric types and selection of underlining, interfacing, inter-lining</td>
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<tr>
<td>ii. Pattern making methods and preparing fabric for cutting</td>
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<td>iii. Pattern layout and cutting of special fabrics</td>
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<tr>
<td>iv. Assembly of bodice using different seams and appropriate finish for side seam and shoulder seams</td>
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<tr>
<td>v. Slit and seam plackets, type of plackets and placement of fasteners on different parts of garment</td>
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<tr>
<td>vi. Appropriate neckline finishes with piping, bias facing and shaped facing. Important and use of stay stitching</td>
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<tr>
<td>vii. Sleeve attachment to the bodice by setting in the sleeve into armhole</td>
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<tr>
<td>viii. Assembling of skirt, finishing gathers and pleats into a waistband</td>
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<tr>
<td>ix. Final product: Constructing</td>
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</tbody>
</table>

| i. To teach students how to assemble a garment |
| ii. To construct a bodice using different seams |
| iii. To stitch a placket for bodice opening |
| iv. To finish a neckline using piping and facing |
| v. To set in a sleeve in the armhole |
| vi. To gather or pleat the skirt and finish the waistline with a waist band or a bodice |

| After finishing the course, the students shall be able |
| i. To assemble various parts of the garment and stitch a complete garment |
| ii. To finish a bodice with suitable seam finishes |
| iii. To set in the sleeve in the armhole |
| iv. To assemble a skirt and finish the waistline suitably |

| 8/5/2020 | 30/5/2020 | 80 periods |

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<table>
<thead>
<tr>
<th><strong>Chapter 2: Basic Pattern Development</strong></th>
<th><strong>i. To introduce students to Fashion Design through pattern development</strong></th>
<th><strong>After finishing the course, the student shall be able</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Methods of measuring body and dress form</td>
<td>ii. To explain the importance of this skill that enables the designer to convert a design sketch into a three dimensional form</td>
<td>i. To demonstrate understanding the basic skills of pattern making</td>
</tr>
<tr>
<td>ii. Relationship of sizes and measurements</td>
<td>iii. To develop basic blocks for bodice, sleeve and skirt</td>
<td>ii. To demonstrate understanding of the concept of fit and balance</td>
</tr>
<tr>
<td>iii. Tools of pattern making</td>
<td>iv. To understand and implement the concept and importance of test fits and to convert paper patterns into muslin ones</td>
<td>iii. To develop basic blocks from measurement charts and body measurements</td>
</tr>
<tr>
<td>iv. Common terms used in pattern development</td>
<td>v. Pattern development for womenswear - how patterns are developed; the importance of fit and methods of achieving it.</td>
<td>iv. To test fit and correct the fit of the pattern</td>
</tr>
<tr>
<td>v. Pattern development for womenswear - how patterns are developed; the importance of fit and methods of achieving it.</td>
<td>vi. Basic bodice - how to develop it from standard measurement charts and test fit on the dress form.</td>
<td>v. To develop patterns for simple designs using basic blocks</td>
</tr>
<tr>
<td>vi. Basic bodice - how to develop it from standard measurement charts and test fit on the dress form.</td>
<td>vii. Details like darts, seam allowance, notches, grain lines etc.</td>
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</tr>
<tr>
<td>viii. Details like armholes, necklines - V, U round, boat, square</td>
<td>ix. How to develop a basic sleeve block</td>
<td></td>
</tr>
<tr>
<td>ix. How to develop a basic sleeve block</td>
<td>x. How to develop a basic skirt block with one dart or two darts.</td>
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</tr>
<tr>
<td>x. How to develop a basic skirt block with one dart or two darts.</td>
<td>xi. How to develop the basics of collar development - basic collars like Peter Pan and Chinese</td>
<td></td>
</tr>
<tr>
<td>xi. How to develop the basics of collar development - basic collars like Peter Pan and Chinese</td>
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<thead>
<tr>
<th>Date of Issue</th>
<th>Date of Expiry</th>
<th>Duration</th>
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<tbody>
<tr>
<td>16/9/2020</td>
<td>15/11/2020</td>
<td>80 periods</td>
</tr>
</tbody>
</table>
## SUBJECT: Entrepreneurship

<table>
<thead>
<tr>
<th>NAME OF ASPIRING UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING FOR THE UNIT</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED NUMBER OF HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Opportunity</td>
<td>Students will understand that self-examination of traits and skills is important to access entrepreneurial success. Entrepreneurship is affected by economic, social, and global factors hence these can’t be avoided. Also, a thorough analysis of industry trends, opportunities and threats of the external environment must be considered before taking any decision.</td>
<td>1. Recognize the concept and elements of business opportunity and environment scanning; 2. Identify the factors involved in sensing opportunities; 3. Enlist the various factors affecting business environment; 4. Interpret the meaning of idea fields and enlist its sources; 5. Devise the techniques of</td>
<td>14th Feb’20</td>
<td>15 March’20</td>
<td>18 hours.</td>
</tr>
</tbody>
</table>
6. Describe what is trend spotting;
7. Differentiate the process of creativity and innovation.

### Enterprise Planning

As future entrepreneurs, students will recognize that there are various forms of business available when they need to start their business. Decision w.r.t. the form of ownership must be established which best meets the vision of the entrepreneur.

A complete and thoughtful business plan is a road map which helps an Entrepreneur reach its long-term goals. It gives direction to business, defines the objectives, maps out strategies to achieve the goals and helps in the management of possible bumps in the road.

<table>
<thead>
<tr>
<th></th>
<th>1. Enlist the type of economic activities;</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2. Identify the forms of business organization;</td>
</tr>
<tr>
<td></td>
<td>3. Compare the various forms of business enterprises</td>
</tr>
<tr>
<td></td>
<td>4. Recognize the meaning and format of business plan;</td>
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<tr>
<td></td>
<td>5. Differentiate between the organizational plan, production plan, human resources plan, operational plan, financial plan and marketing plan;</td>
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<tr>
<td></td>
<td>6. Enlist the various</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>16thMarch’20</th>
<th>29thMarch’20</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>18 hours.</td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td>Details</td>
<td>Dates</td>
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</tr>
<tr>
<td>Enterprise Marketing</td>
<td>Students will appreciate that setting clear goals and objectives that are consistent with the vision of the business are essential. Also, an Entrepreneur must be cognizant of his strengths and core competencies to exploit the chosen market and should be mindful of his weaknesses for better control, defend and improvement in its market position. Further, they will also understand that promotion mix is a planned way to get the sales message out to the general public and the target customers.</td>
<td>4th April’20</td>
</tr>
</tbody>
</table>

1. Define SMART goals;  
2. Enlist the various marketing strategies used in a firm;  
3. Analyze in detail the 4P’s of marketing;  
4. Enlist the various selling strategies used in a firm;  
5. Evaluate the various concepts like brand, logo and tagline;  
6. Describe the various methods of Pricing  
7. Appreciate the various channels of distribution  
8. Recognize the meaning and methods of ...
9. Demonstrate the importance of employee and vendor management in a firm;
10. Relate the importance of quality in customer satisfaction;
11. Analyse the various reasons for business failure.

<table>
<thead>
<tr>
<th>Project Work</th>
<th>Business Plan</th>
<th>Research, analyse and prepare CBSE project as per guidelines under facilitation of teacher.</th>
<th>13th May’20</th>
<th>22nd May’20</th>
<th>10 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Growth</td>
<td>Strategies</td>
<td></td>
<td>5th May’20</td>
<td>13th May’20</td>
<td>9 hours</td>
</tr>
<tr>
<td></td>
<td>Business world is dynamic and growth oriented. Students as future entrepreneurs or Intrapreneurs will learn to identify and evaluate the growth opportunities through Franchising, mergers and acquisitions. They will develop</td>
<td></td>
<td>1st July’20</td>
<td>14th July’20</td>
<td></td>
</tr>
<tr>
<td>The skill of gauging the synergies of mergers and acquisitions.</td>
<td>3. Enlist the types of mergers; 4. Elaborate on the meaning and types of acquisitions; 5. Critique the reasons for mergers and acquisitions; 6. Evaluate the reasons for failure of mergers and acquisitions; 7. Recognize the concept of value addition and value chain; 8. Devise the requirements for value chain management.</td>
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<tr>
<td><strong>Business Arithmetic</strong></td>
<td>An entrepreneur has to develop the skill of analyzing the capital requirement for the venture- Does the business need to finance it’s regular working expenses or just provide finance for investing in the fixed assets? How scale</td>
<td>1. Identify the concept of unit price; 2. Calculate Break Even Point for Multiple products; 3. Recognize the meaning of inventory</td>
<td>23rd July’20 10th August’20 15 hours</td>
<td></td>
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</tbody>
</table>
and the nature of business impacts the requirement of working capital of the business? Each investment decision has to be evaluated according to the return it will generate.  

| 4. Enumerate the meaning of cash flow projection; |
| 5. Explain the concept of working capital; |
| 6. Define the terminologies – financial management and budgets; |
| 7. Calculate Return on Investment; |
| 8. Explain the concept of Return on Equity. |

### Revision

<table>
<thead>
<tr>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>11 August'20</td>
<td>10</td>
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<tr>
<td>31st August'20</td>
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</tbody>
</table>

### Resource Mobilization

<table>
<thead>
<tr>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>22nd Sept’20</td>
<td>15</td>
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<tr>
<td>20th Oct’20</td>
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</tbody>
</table>
funding to fulfill the business’s immediate and future needs. Is the financial market regulated? If yes, then by whom?

2. Evaluate raising funds through financial markets;
3. Visualize the method of floatation for new issue;
4. Evaluate the relevance of stock exchange as a medium through which funds can be raised and the role of SEBI;
5. Recognize the concept of angel investors and venture capitalists;
6. Discuss the role played by IDBI, SIDBI, IFCI, NABARD, SFC, TFCI and SIDC.

<table>
<thead>
<tr>
<th>Project Work</th>
<th>Market Survey and Business Plan</th>
<th>21st Oct’20</th>
<th>4th Nov’20</th>
<th>8 hours</th>
</tr>
</thead>
</table>

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### SUBJECT: ECONOMICS

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING FOR THE UNIT</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED NUMBER OF HOURS</th>
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<tbody>
<tr>
<td><strong>TERM 1</strong></td>
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<tr>
<td>Part B: Introductory</td>
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<td>Macroeconomics</td>
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<tr>
<td>4. Government Budget and</td>
<td>Students will understand the</td>
<td>• Analyze the</td>
<td>11-02-2020</td>
<td>29-02-2020</td>
<td>10 hrs</td>
</tr>
<tr>
<td>the Economy</td>
<td>meaning of budget. The budget in</td>
<td>government budget and its objectives</td>
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<td>India is also known as the Union</td>
<td>• List down the</td>
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<td>budget. The objectives of the</td>
<td>components of the</td>
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<td>budget is to minimize the gap</td>
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<td>between rich and poor, create more</td>
<td>• Describe the</td>
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<td>employment in India through</td>
<td>meaning of budget</td>
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<td>reallocation of resources.</td>
<td>receipts</td>
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<td>• Define the terms balanced, surplus</td>
<td>• Define the</td>
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<td>and deficit budgets</td>
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<td>surplus and</td>
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<td>• Budget - meaning, objectives and</td>
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<td>• Classification of receipts</td>
<td>• List down the</td>
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<td>- revenue receipt and capital</td>
<td>components of the</td>
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<td>receipt;</td>
<td>budget</td>
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<td>• Classification of</td>
<td>• Describe the</td>
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<td>expenditure – revenue expenditure</td>
<td>meaning of budget</td>
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<td>and capital expenditure.</td>
<td>receipts</td>
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<td>• Various measures of</td>
<td>• Define the</td>
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<td>government deficit - revenue</td>
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<td>deficit, fiscal deficit, primary</td>
<td>surplus and</td>
<td></td>
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<tr>
<td></td>
<td>deficit: their meaning.</td>
<td>deficit budgets</td>
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</tr>
</tbody>
</table>
2. Money and Banking
- Money – its meaning
- Supply of money – Currency held by the public and net demand deposits held by commercial banks.
- Money creation by the commercial banking system.
- Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker’s Bank, Control of credit through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Students will understand that growth of an economy depends upon the level of business activities which in turn depend upon the investment level of the economy with the help of financial institutions e.g. banks. Creation of credit is arguably the most important function performed by a commercial bank.

- Define money
- Identify the components of money supply.
- Describe the credit creation process of commercial banks.
- Discuss the meaning of the central bank and its functions.

5. Balance of Payments
- Balance of payments account - meaning and components; balance of payments deficit - meaning.

Students will understand the importance of international trade after studying balance of payments.

- Explain the meaning of foreign exchange and equilibrium in the foreign exchange
- Foreign exchange rate – meaning of fixed and flexible rates and managed floating.
- Determination of exchange rate in a free market.

<table>
<thead>
<tr>
<th>Development Experience (1947-90) and Economic</th>
<th>Students will learn the history of Indian economy at the eve</th>
<th>06-04-2020</th>
<th>30-04-2020</th>
<th>15 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Condition of Indian economy at the eve</td>
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<tr>
<td>A brief introduction of the state of Indian economy on the eve of independence. Common goals of five year plan.</td>
<td>Features and appraisals of liberalization, globalization and privatisation (LPG policy); Concepts of demonetization and GST.</td>
<td>Students will relate all factors of production (Land, Labor, Capital, Entrepreneurship) to generate factor income of Independence.</td>
<td></td>
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</tr>
<tr>
<td>Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.), industry (industrial licensing, etc.) and foreign trade.</td>
<td></td>
<td>Main features of Indian Economy.</td>
<td></td>
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</tr>
<tr>
<td><strong>Economic Reforms since 1991</strong></td>
<td></td>
<td>Problems and policies of agriculture and industry.</td>
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<tr>
<td></td>
<td></td>
<td>Explain the background of the reform policies introduced in India in 1991</td>
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<td></td>
<td></td>
<td>Illustrate the mechanism through which reform policies were introduced</td>
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<tr>
<td></td>
<td></td>
<td>Comprehend the process of liberalization, privatization and and globalization and its implications for reform in various sectors.</td>
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<tr>
<td></td>
<td></td>
<td>Explain the meaning of Macroeconomics</td>
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<td></td>
<td>Differentiate</td>
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</tbody>
</table>

goods, intermediate goods; stocks and flows; gross investment and depreciation.

- Circular flow of income (two sector model)
- Concepts and aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP) - at market price, at factor cost;
- Real and Nominal GDP, GDP and Welfare

Income generated by the production of goods and services using these factors and then distributed among them in the form of factor payments like rent, wages, interest and profit.

between micro and macro economics

- Outline the circular flow of income in a two sector model.
- Calculate national income through value added, expenditure and income method.
- Clarify the meaning of consumption and Capital goods.
- Categorize goods further into intermediate and final goods.
- Distinguish between stock and flow.
- Discuss the meaning of economic territory of a country.
- Discuss normal residents of the country.
- Describe and apply all National income
<table>
<thead>
<tr>
<th>3. Determination of Income and Employment</th>
<th>Students will know that during the great depression of 1930, the Classical Theory of Income and Employment failed miserably when the world at large faced unprecedented depression, resulting in massive unemployment.</th>
<th>1-07-2020</th>
<th>30-07-2020</th>
<th>20 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Aggregate demand and its components.</td>
<td>• Describe the meaning and components of aggregate demand.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• Propensity to consume</td>
<td>• Discuss the meaning of marginal and average propensity to consume and save.</td>
<td></td>
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<tr>
<td>• Propensity to save (average and marginal).</td>
<td>• Critically examine</td>
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<tr>
<td>• Short-run equilibrium output</td>
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<tr>
<td>• Investment multiplier and its mechanism</td>
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<tr>
<td>• Meaning of full employment and</td>
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</tbody>
</table>
involuntary unemployment.

- Problems of excess demand and Deficient demand; Measures to correct them - changes in government spending, taxes and money supply.

and falling incomes. At such a crucial time, Prof. Keynes came as a saviour of the world with his revolutionary ideas compiled in his book. He used the approach of AD and AS for the determination of equilibrium of an economy.

the meaning of involuntary unemployment and full employment with the help of Keynesian concept of aggregate supply and aggregate demand.

- Establish the equilibrium level of income in the economy.
- Discuss the meaning of investment multiplier and it’s working.
- Analyze the concept of excess and deficient demand.
- Discuss the measures to correct excess and deficient demand.
### Unit 7: Current challenges facing Indian Economy

- **Poverty**: absolute and relative; Main programme for poverty alleviation: A critical assessment;
- **Rural development**: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming.
- **Human Capital Formation**: How people become resource; Role of human capital in economic development; Growth of Education Sector in India.
- **Employment**: Formal and informal growth; problems and policies.
- **Infrastructure**: Meaning and Types: Case Studies: Energy and Health: Problems and Policies- A critical assessment;
- **Sustainable Economic Development**: Meaning.

To get a deeper understanding of Indian Economy refer to challenges, which we are still facing since independence. The major economic challenges are poverty, rural development, Human capital formation, employment, infrastructure and sustainable economic development.

<table>
<thead>
<tr>
<th>Poorest States</th>
<th>1-08-2020</th>
<th>23-08-2020</th>
<th>16 Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>23-09-2020</td>
<td>18-10-2020</td>
<td>15 Hrs.</td>
</tr>
</tbody>
</table>
### Effects of Economic Development on Resources and Environment, including global warming.

- Give the meaning of environment.
- Discuss the challenges to India’s environment.
- Explain the concept of sustainable development.

### Unit 8: Development Experience of India: A comparison with neighbours India and Pakistan India and China

**Issues:** growth, population, sectoral development and other Human Development Indicators

- A country's growth is always dependent upon its relations with neighbouring countries of India with Pakistan and China.
- Figure out comparative trends in various economic and human development indicators of India and its neighboring countries like China and Pakistan
- List down the strategies that these countries have adopted to reach their present state of development.

### Project Work

**Introduction & Explanation of topic**

<table>
<thead>
<tr>
<th>Date</th>
<th>21-05-20</th>
<th>23-05-20</th>
<th>3 hrs</th>
</tr>
</thead>
</table>

### Summer Break

<table>
<thead>
<tr>
<th>Date</th>
<th>23-05-20</th>
<th>02-7-20</th>
<th></th>
</tr>
</thead>
</table>
## SUBJECT: BUSINESS STUDIES

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED HOURS</th>
</tr>
</thead>
</table>
| Unit 1 Nature and significance of Management | People develop systems to manage conflicts and create order. Management helps in processing systems in a smooth manner and getting the work done effectively and efficiently. Management is all pervasive and is required in all fields of life.                                                                                                                                                                                                                     | -Understand the concept of Management  
-Explain the meaning of effectiveness and efficiency  
-Discuss the objectives of management  
-Describe the importance of management  
-Examine nature of management as an art, | 14th February | 27th February       | 10               |
| Principles of Management | Applying the values and principles of management in decision making of business and personal life. Understand the contribution of Henri Fayol and F W Taylor in the management theory and practice | -Understand the concept of principles of Management  
-Explain the significance of management principles  
-Discuss the principles developed by Fayol  
-Interpret the principles of Taylor and the techniques prescribed by him.  
-Compare the contributions by Taylor and Fayol | 28th February 2017  
18th March 2017 | 14 |
<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Environment</td>
<td>Acquire basic knowledge in the legal, social, economical, and technological aspects of business to become competent consumers, employees, and entrepreneurs. To understand the competitive impact of environment on the business and work accordingly as global managers</td>
<td>19th March</td>
</tr>
</tbody>
</table>
|                      | - Understand the concept of Business Environment  
- Explain the importance of the environment according to business needs.  
- Summarize the dimensions of the business environment.  
- Understand the concept of Demonetization  
- Evaluate the impact of government policy.  
- Discuss the managerial response to changes in business environment | 30th March    |
|                      |                                                                                                                                                                                                            | 8             |
| Marketing Management | If I want to sell, sell and sell, what’s my plan? The students will learn to develop a comprehensive marketing strategy by examining customer needs and wants.                                                | 31st March    |
|                      | - Understand the concept of selling and marketing  
- Explain the features of marketing  
- Discuss the functions of marketing  
- Explain the marketing management philosophies | 28th April    |
<p>|                      |                                                                                                                                                                                                            | 18            |</p>
<table>
<thead>
<tr>
<th>Financial Markets</th>
<th>As global citizens they will be having an understanding of the functioning of local global</th>
<th>-Understand the concept of financial market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Understand the concept of marketing mix</td>
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<td></td>
<td>-Understand Product as an element of the marketing mix along with branding, labelling and packaging</td>
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<td></td>
<td>-Understand the price mix with a special focus on factors affecting the Price of a product</td>
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<td></td>
<td>-Understand the element of physical distribution along with its components and factors affecting the choice of channels of distribution</td>
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<tr>
<td></td>
<td>-Understand the concept of promotion with its various components like advertising, personal selling, sales promotion and public relations</td>
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<td></td>
<td>30th April</td>
<td>12th May</td>
</tr>
</tbody>
</table>
| financial markets | Explain the functions of financial markets  
|                   | Differentiate between money market and capital markets;  
|                   | Detect the instruments used in money markets  
|                   | Explain the primary market and secondary market  
|                   | Differentiate between capital market and money market  
|                   | Understand the different methods of floatation of new issues in primary market  
|                   | Elaborate the meaning and functions of stock exchange  
|                   | Discuss the trading procedure in the stock exchange  
|                   | Understand the meaning of Depository participants and demat account in the trading procedure  
|                   | Appreciate the |
| Consumer protection | As citizens of a country to be aware of the rights and laws to be protected as consumers. | - Understand the concept of consumer protection  
- Describe the importance of consumer protection  
- Understand the concept of a consumer according to the Consumer Protection Act 1986.  
- Discuss the scope of consumer protection  
- Explain the consumer rights and duties  
- Discuss the legal redressal machinery under consumer protection act  
- Examine the remedies available to the consumers under the consumer protection act | 13th May | 19th May | 5 |

| Project work |  | 20th May | 22nd May | 3 |
| Project Feedback | The student will be given feedback on the projects they made during summer break | 2nd July | - | 1 |
| Financial | Provides an enduring | 3rd July | 21st July | 11 |
management understanding of the basic tools and fundamental principles upon which finance is based. Understanding the ways of managing and planning the finance. Viewing finance as a set of tools to equip the students to become entrepreneurs and take the correct decision. concept of financial management  
-Explain the role of financial management in the organisation  
-Discuss the objectives of financial management  
-Understand and plan the three major decisions of business through proper understanding  
-Elaborate and understand the meaning and importance of financial planning  
-Analyse the concept of capital structure;  
-Describe the factors determining the choice of an appropriate capital structure of a company;  
-Review the financial leverage of an organization;  
-Evaluate the trading on equity  
-Understand the meaning and factors
### Planning

Understand the meaning and process of Planning. To know the importance of planning in the performance of various activities.

- Discuss the concept and evaluate the importance and limitations of planning
- Evaluate the flow of planning process
- Develop an understanding of single use and standing plans
- Describe objectives, policies, strategy, procedure, method, rule, budget and programme as types of plans
- Draw a difference between between different types of plans

<table>
<thead>
<tr>
<th>Date</th>
<th>Attendance</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>22nd July</td>
<td>4th August</td>
<td>8</td>
</tr>
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</table>

### Organising

An ability to organize, delegate and decentralize work and structure organization as an effective collaborator, according to the need of the business.

- Explain the concept and importance of organizing.
- Evaluate the organizing process

<table>
<thead>
<tr>
<th>Date</th>
<th>Attendance</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th August</td>
<td>25th August</td>
<td>11</td>
</tr>
</tbody>
</table>

Page 147 of 173
- Compare the structure of organization i.e. functional and divisional structure
  - Inquire about the types of organization i.e. formal and informal
  - Recognise and understand delegation and its elements
  - Appreciate the importance of delegation
  - Understand the concept and importance of decentralization
  - Draw a difference between delegation and decentralisation

<table>
<thead>
<tr>
<th>Revision Classes</th>
<th>A revision of the topics as per the student feedback. A focus on the topics that need a revisit of the topics.</th>
<th>Topics on the basis of student feedback</th>
<th>26th August</th>
<th>4th September</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>A well planned compensation package, good working conditions, and strong leadership will help create motivated and loyal employees. The objectives of the company</td>
<td>- Explain the concept and importance of staffing</td>
<td>21st September</td>
<td>9th October</td>
<td>11</td>
</tr>
</tbody>
</table>

|  |  |  |  |  |  |  |  |  |  |

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can be achieved by aligning the person with the right job opportunity - right person for the right job at the right time. Appreciate that training is an ongoing investment.

| Management          | - Analyze the process of staffing  
|                     | - Discuss the various internal and external sources of recruitment  
|                     | - Elaborate the meaning and steps of selection process  
|                     | - Appreciate the importance of training and development  
|                     | - Understand the various on the job and off the job training methods  
|                     | - Differentiate between training, education and development  
|                     | - Differentiate between on the job training and off the job training |

| Directing           | Students will learn and practice the interpersonal, teamwork, and leadership skills to strengthen individual performance in the workplace and in society and to make a successful transition to the | - Understand the meaning and importance of directing  
|                     |                                               | - Identify the four elements of directing  
|                     |                                               | - Understand the concept and importance |

|                    | 12th October | 5th November | 14 |

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<table>
<thead>
<tr>
<th>Workforce and/or postsecondary education.</th>
<th>Of supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Emphasise the need for achievement motivation</td>
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<tr>
<td>- Understand the Maslow’s need Hierarchy theory</td>
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<tr>
<td>- Appreciate the various financial and non-financial motivators used in the business</td>
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<tr>
<td>- Explain the meaning of leadership by giving examples of various leaders</td>
<td></td>
</tr>
<tr>
<td>- Interpret various leadership styles and their suitability</td>
<td></td>
</tr>
<tr>
<td>- Understand the meaning and process of communication</td>
<td></td>
</tr>
<tr>
<td>- Discuss the concept of formal and informal communication</td>
<td></td>
</tr>
<tr>
<td>- Discuss the various barriers in the communication process</td>
<td></td>
</tr>
<tr>
<td>- Suggest measures to overcome the barriers of communication</td>
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</tr>
</tbody>
</table>
Controlling

Understanding the skills to look into deviations from the actual targets in life and control them accordingly.

- Understand the meaning and importance of controlling
- Analyse the relationship between planning and controlling
- Discuss the steps in the process of controlling

| 6th November | 10th Nov | 4 |

Revision

A revision of the topics as per the student feedback. A focus on the topics that need a revisit of the topics.

Topics on the basis of student feedback

<p>| 12th November | 20th November |</p>
<table>
<thead>
<tr>
<th>NAME OF ASPIRING UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING FOR THE UNIT</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
<th>ESTIMATED NUMBER OF HOURS</th>
</tr>
</thead>
</table>

TERM 1
While partnership can be formed with no written agreement, a formal written agreement is preferable so that all parties involved are clear on their duties, responsibilities, and rewards. A knowledge of accounting and an ability to work with financial information is therefore extremely important for students who are preparing for a wide range of business careers; especially, for students who are planning to enter the field of accounting.

- State the meaning of partnership, partnership firm and partnership deed.
- Describe the characteristic features of partnership and the contents of partnership deed.
- Explain the significance of provision of Partnership Act in the absence of partnership deed.
- Differentiate between fixed and fluctuating capitals, outline the process and develop the understanding of preparation of Profit and Loss Appropriation A/c, partners capital account.
- Develop the understanding of making past adjustments.
- Develop the understanding of dealing with the
guarantee of a partner.
- Dealing with managers treated as a partner with retrospective effect.

| NATURE AND VALUATION OF GOODWILL | Meaning, Nature and Features of Goodwill. | Different factors affecting the value of goodwill. | Methods of valuation of goodwill. | State the meaning, nature and factors affecting goodwill. | Develop the understanding of valuation of goodwill using different methods of valuation of goodwill. | 27/2/20 | 05/3/20 | 5 hours |
## Average profit method, Super profit method, Weighted average profit method, Capitalisation of average profit and capitalisation of super profit.

<table>
<thead>
<tr>
<th>CHANGE IN PROFIT SHARING RATIO</th>
<th>- The accounting treatment to record the changes in the profit sharing ratio of the existing partners.</th>
<th>- Describe the meaning and determination of sacrificing ratio, gaining ratio and the change in profit sharing ratio among existing partners.</th>
<th>06/3/20</th>
<th>13/3/20</th>
<th>5 hours</th>
</tr>
</thead>
</table>

<p>| ADMISSION OF A PARTNER | - Can a partner be admitted to a business firm? If yes then - What is the accounting process of recording the adjustments to be made in case of admission of a partner. | - Explain the effect of change in profit sharing ratio on admission of a new partner. | 14/3/20 | 8/4/20 | 15 hours |
| RETIREMENT AND DEATH OF A PARTNER | revaluation of assets and reassessment of liabilities by preparing Revaluation A/c and Balance Sheet. -Develop the understanding of accounting treatment of capital adjustment. | 9/4/20 | 04/5/20 | 12 hours | -Does a partnership firm have a separate legal identity? What will happen if one of the partner’s wants to leave the firm or a partner dies? - Calculation of New and gaining ratio. - Treatment of Goodwill by adjusting in partners’ capital accounts or by raising and writing off. -Develop the understanding of accounting treatment of assets and reassessment of liabilities and treatment of reserves and accumulated profits by preparing a Revaluation account and Balance sheet. - Explain the effect of retirement / death of a partner by preparing a Retiring or deceased partner’s capital account. - Preparation of Retiring partners/ deceased partner’s loan A/c. - Dealing with different cases of Adjustment of capital. |
| DISSOLUTION OF PARTNERSHIP FIRM | -Is it possible to dissolve a firm voluntarily? Can a court force the dissolution of a firm, if yes then under what circumstances? -How are the books of accounts closed? | -Understand the situations under which a partnership firm can be dissolved. -Develop the understanding of preparation of Realisation account and other ledger accounts. | 05/5/20 | 15/5/20 | 9 hours |
| FINANCIAL STATEMENTS OF A COMPANY | -Students learn to read and understand the financial statements of a company. -Analysis of Financial Statements helps in making informed business decisions as a stakeholder in the capacity of an investor/researcher/management/ employee or the entrepreneur. | -Develop the understanding of major headings and subheadings (as per Schedule III to the Companies Act, 2013) of Balance sheet and Statement of Profit &amp; Loss as per the prescribed norms / formats. - Preparation of Balance sheet and Statement of Profit and Loss. | 18/5/20 | 21/5/20 | 3 hours |
| ANALYSIS OF FINANCIAL STATEMENTS | Data on its own is useless. -Data must be compared and analyzed. -Care must be taken to ensure comparisons | Describe the meaning of different tools of 'Financial statement analysis'. | 22/5/20 | 22/5/20 | 1 hour 3 hours |</p>
<table>
<thead>
<tr>
<th>ACCOUNTING RATIOS</th>
<th>COMPARATIVE AND COMMON SIZE STATEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>of like entities (e.g. comparing multiple years within the same company or between companies of the same industry, size, etc.)</td>
<td></td>
</tr>
<tr>
<td>The objective that businesses need to provide information that is useful to various stakeholders’ like-owners, potential investors and creditors. Understanding what the ratio means is more critical than knowing how to calculate the ratio. Integrity, confidentiality, and high ethical standards are crucial to maintaining the viability of the accounting profession.</td>
<td></td>
</tr>
</tbody>
</table>
| Management uses the statement of cash flow and statement of cash to determine the cash inflows and outflows. | Develop the understanding of preparation of Comparative and common size financial statements like Statement of Profit and Loss and Balance Sheet as per Schedule III. -Know the meaning, objectives and significance of different types of ratios. -Develop the understanding of computation of current ratio and quick ratio. Develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio. -Develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio. -Develop the skill of computation of gross profit ratio, operating profit ratio, operating profit
<p>| 1/7/20 | 7/7/20 | 10 hours |
| 08/7/20 | 22/7/20 | 10 hours |
| 10 hours | 10 hours |</p>
<table>
<thead>
<tr>
<th><strong>CASH FLOW STATEMENT</strong></th>
<th>flows to make various investing and financing decisions.</th>
<th>ratio, net profit ratio and return on investment.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NON PROFIT ORGANIZATIONS</strong></td>
<td>Profit is not the only purpose of business. Can an organisation be set up without the aim of profit motive? What can be the other aims of such an organization?</td>
<td>- State the meaning and objectives of cash flow Statement. - Develop the understanding of preparation of Cash Flow Statement using indirect method as per AS- 3 with given adjustments. - Treatment of Proposed dividend as per AS-4. - State the meaning of a Not-for-profit organization and its distinction from a profit making entity. - Describe the meaning of receipts and payments account, its features and develop the understanding that only cash transactions concerning current, past</td>
</tr>
</tbody>
</table>

| 23/7/20 | 10/8/20 |
| 11/8/20 | 24/8/20 |

20 hours
<table>
<thead>
<tr>
<th>REVISION SA 1</th>
<th>ACCOUNTING FOR SHARE CAPITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Revision of First Term.</td>
</tr>
<tr>
<td></td>
<td>-What's the process of issuing shares by a public company?</td>
</tr>
<tr>
<td></td>
<td>-Can a company issue shares at a value higher or lower than the face value?</td>
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<tr>
<td></td>
<td>-What if a shareholder defaults in the payment for the shares- what is the course of action a company can take?</td>
</tr>
<tr>
<td></td>
<td>-Disclosure of the share capital in the balance sheet of a company.</td>
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<tr>
<td></td>
<td>&amp; future periods whether of revenue or capital nature are recorded in receipts and payments account.</td>
</tr>
<tr>
<td></td>
<td>-Develop the skill of preparing receipts and payments account.</td>
</tr>
<tr>
<td></td>
<td>Explain the meaning of income and expenditure account and its features.</td>
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<tr>
<td></td>
<td>-Develop the understanding of preparing income and expenditure account and balance sheet of a not-for-profit organization with the help of given receipts and payments account and additional information</td>
</tr>
<tr>
<td></td>
<td>25/8/20 4/9/20</td>
</tr>
<tr>
<td></td>
<td>24/9/20 30/10/20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TERM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
and preference shares and different types of share capital.
-Understand the meaning of private placement of shares.
-Explain the accounting treatment of share capital transactions regarding issue of shares.
-Develop the understanding of issue of shares for consideration other than cash.
-Develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares.
-Describe the presentation of share capital in the balance sheet of the company as per Schedule III part I of the Companies Act 2013.

| ISSUE AND REDEMPTION OF DEBENTURES | Accounting treatment for issuing debentures as debt capital. Accounting treatment of redemption of debentures. | -Explain the accounting treatment of different categories of transactions related to the issue of debentures. -Develop the skill of calculating interest on debentures and its | 1/11/20 | 12/11/20 | 10 hours |

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accounting treatment, writing off loss or discount on issue of debentures as per AS-16 related to borrowing cost.  
- Passing entries for issue of debentures with terms of redemption.  
- State the meaning of redemption of debentures.  
- Develop the understanding of accounting treatment of transactions related to redemption of debentures under different methods.  
- Understand the concept of DRR and DRI and different sources of redemption of debentures.

<table>
<thead>
<tr>
<th>REVISION</th>
<th>13/11/20</th>
<th>30/11/20</th>
</tr>
</thead>
</table>
| PROJECT WORK | - Projects help in completing the accounting process in a real business like situation  
- It develops competence to read, analyse and interpret accounting data of an enterprise. | Comprehensive Problem and Specific Problems | To be completed during the Summer and Autumn Break |
### SUBJECT: PAINTING

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>Enduring understanding</th>
<th>LEARNING OUTCOME</th>
<th>START DATE</th>
<th>END DATE</th>
<th>ESTIMATED NUMBER OF PERIODS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 3: The Bengal School of Painting and the Modern trends in Indian Art</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. National Flag of India and the Symbolic significance of its forms and the colours.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Introduction to the Bengal School of Painting (i) Origin and development of the Bengal School of Painting (ii) Main features of the Bengal School of Painting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. (i) Introduction to the life and creative expressions of the following painters Study of method &amp; material and appreciation of the following paintings of the Bengal school: (i) Journey’s End - Abanindranath Tagore (ii) Shiv and Sati- Nandla Bose</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The objective of including the history of Indian Art for the students is to familiarise them with the various styles and modes of art expressions from different parts of India.

This would enrich their vision and enable them to appreciate and develop an aesthetic sensibility to enjoy the beauty of nature and life.

The students will also have an opportunity to observe and study (About the beginning to mid of the 20th Century)

After finishing the course, the student shall be able

To develop understanding and importance of history of Art. Develop an understanding socio and economics influence on art history.

Understand the areas of extent of particular art form

Art history teaches students to analyse the visual, sensual evidence to be found in diverse works of art, architecture, and design in combination with textual evidence.

To strengthen one’s communication skills. To become a better designer. To appreciate the past, be inspired in 24/03/20 23/05/20 24 periods
(ii) Rasa-Lila – Kshitindranath Majumdar  
(iv) Radhika - M.A.R. Chughtai  
(v) Meghdoot - Ram Gopal Vijaivargiya  

Contribution of Indian artists in the struggle for National Freedom  
Movement  
Tiller of the Soil - Nandal Bose  

(d) The Modern Trends in Indian Art  
Introduction to the life and creative expressions of the following paintings. Study of method and material and appreciation of the following Contemporary (Modern) Indian Art  

(a) Paintings:  
(i) Rama Vanquishing the Pride of the Ocean – Raja Ravi Varma  
(ii) Mother and child - Jamini Roy  
(iii) Haldi Grinders - Amrita Sher Gil  
(iv) Mother Teresa - M.F. Husain  
(v) The Vulture - Kamlesh Dutt Pande  

(b) Graphic - prints:  
(i) Whirl pool - Krishna Reddy  

the evolution of its mutations and synthesis with other style and the rise of an altogether new style.  

The students should be made aware of art as a human experience.  

The teachers should be able to expose them to the wide range of artistic impressions, the media and the tools used.  

The history of Indian art is a long one. Hence the students would be acquainted with brief glimpses of the development of Indian visual art as are required for concept formation.  

the present and anticipate the future. Because other designers know design history and they're the competition.  

art and architecture were a tremendous source of pride for citizens and could be found in various parts of the city.  

The history of art is often told as a chronology of masterpieces created during each civilization.
(ii) Children - Somnath Hore  
(iii) Devi - Jyoti Bhatt  
(iv) Of Walls - Anupam Sud  
(v) Man, Woman and Tree - K. Laxma Goud

(c) Sculptures:  
(i) Triumph of Labour - D. P. Roychowdhury  
(ii) Santhal Family - Ramkinker Vaij  
(iii) Cries Un-heard – Amar Nath Sehgal  
(iv) Ganesha - P.V. Janaki Ram  
(v) Chatturmukhi - Aekka Yada Giri Rao

Examples included in the course of study are selected because of their aesthetic qualities and are intended purely as guidelines.

<table>
<thead>
<tr>
<th>Unit 1 (a) Six Limbs of Indian Painting &amp; Fundamentals of Visual Arts (Elements and Principles)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) The Rajasthani and Pahari Schools of Miniature Painting (16th Century A.D. to 19th Century A.D.)</td>
<td></td>
</tr>
<tr>
<td>A brief introduction to Indian Miniature Schools: Western-Indian, Pala, Rajasthani, Mughal, Central India, Deccan and Pahari. The Rajasthani School: 1. Origin and Development</td>
<td></td>
</tr>
</tbody>
</table>

After finishing the course, the student will know Six Limbs of Indian Painting Origin and Development Sub-Schools-Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur Main features of the Rajasthani School Study of method & material and appreciation of the following Rajasthani paintings

<table>
<thead>
<tr>
<th></th>
<th>1/07/20</th>
<th>1/09/20</th>
<th>18 Periods</th>
</tr>
</thead>
</table>

Page 165 of 173
2. Sub-Schools-Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur
3. Main features of the Rajasthani School
4. Study of method & material and appreciation of the following Rajasthani paintings:

<table>
<thead>
<tr>
<th>Title</th>
<th>Painter</th>
<th>Sub-School</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Maru-Ragini</td>
<td>Mewar</td>
</tr>
<tr>
<td>b.</td>
<td>Raja Aniruddha Singh Hara</td>
<td>Bundi</td>
</tr>
<tr>
<td>c.</td>
<td>Chaugan Players</td>
<td>Jodhpur</td>
</tr>
<tr>
<td>d.</td>
<td>Krishna on swing</td>
<td>Bikaner</td>
</tr>
<tr>
<td>e.</td>
<td>Radha (Bani-Thani)</td>
<td>Kishangarh</td>
</tr>
<tr>
<td>f.</td>
<td>Bharat Meets Rama at Chitrakuta</td>
<td>Jaipur</td>
</tr>
</tbody>
</table>

After finishing the course, the student will also know

**The Pahari School:**
1. Origin and development
2. Sub-Schools-Basohli, Guler, Kangra, Chamba and Garhwal
3. Main features of the Pahari School
4. Study of method & material and appreciation of the following Pahari paintings:

<table>
<thead>
<tr>
<th>Title</th>
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<th>Sub-School</th>
</tr>
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<tbody>
<tr>
<td>i.</td>
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<td>h.</td>
<td>Chaugan Players</td>
<td>Jodhpur</td>
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<td>Radha (Bani-Thani)</td>
<td>Kishangarh</td>
</tr>
<tr>
<td>l.</td>
<td>Bharat Meets Rama at Chitrakuta</td>
<td>Jaipur</td>
</tr>
</tbody>
</table>
### Unit 2: The Mughal and Deccan Schools of Miniature Painting

**18 Periods**

(16th Century AD to 19th Century A.D.)

#### The Mughal School

1. Origin and development
2. Main features of the Mughal School
3. Study of method & material and appreciation of the following **Mughal Paintings:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Painter</th>
<th>Time period</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Krishna Lifting Mount Govardhana</td>
<td>Miskin</td>
<td>Akbar</td>
</tr>
<tr>
<td>b. Birth of Salim</td>
<td>Ramdas</td>
<td>Akbar</td>
</tr>
<tr>
<td>c. Falcon on a Bird-Rest</td>
<td>Ustad Mansoor</td>
<td></td>
</tr>
<tr>
<td>d. Kabir and Raidas</td>
<td>Ustad Faquirullah Khan</td>
<td>Shah Jahan</td>
</tr>
<tr>
<td>e. Marriage Procession of Dara Shukoh</td>
<td>Haji Madni</td>
<td></td>
</tr>
<tr>
<td>f. Krishna Lifting Mount Govardhana</td>
<td>Miskin</td>
<td>Akbar</td>
</tr>
<tr>
<td>g. Birth of Salim</td>
<td>Ramdas</td>
<td>Akbar</td>
</tr>
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<td>h. Falcon on a Bird-Rest</td>
<td>Ustad Mansoor</td>
<td></td>
</tr>
<tr>
<td>i. Kabir and Raidas</td>
<td>Ustad Faquirullah Khan</td>
<td>Shah Jahan</td>
</tr>
<tr>
<td>j. Marriage Procession of Dara</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After finishing the course, the student will know

**The Mughal School**

1. Origin and development
2. Main features of the Mughal School
3. Study of method & material and appreciation of the following **Mughal Paintings:**

Student will also know

**Title --Painter --Time period**

<table>
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<td>Ustad Faquirullah Khan</td>
<td>Shah Jahan</td>
</tr>
<tr>
<td>j. Marriage Procession of Dara</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Deccan School

1. Origin and development
2. Main features of the Deccan School
3. Study of method & material & appreciation of the following Deccan paintings:

<table>
<thead>
<tr>
<th>Title</th>
<th>Painter</th>
<th>Sub-School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ragini Pat-hamsika</td>
<td>Unknown</td>
<td>Ahmadnagar</td>
</tr>
<tr>
<td>Hazrat Nizamuddin Auliya and Amir Khusro</td>
<td>Unknown</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Chand Bibi Playing Polo (Chaugan)</td>
<td>Unknown</td>
<td>Gol Konda</td>
</tr>
<tr>
<td>Shukoh</td>
<td>Haji Madni</td>
<td>Awadh</td>
</tr>
</tbody>
</table>

The Deccan School

Origin and development
Main features of the Deccan School
Study of method & material & appreciation of the following Deccan paintings:

<table>
<thead>
<tr>
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<tr>
<td>Chand Bibi Playing Polo (Chaugan)</td>
<td>Unknown</td>
<td>Gol Konda</td>
</tr>
</tbody>
</table>
# SUBJECT: PHYSICAL EDUCATION

<table>
<thead>
<tr>
<th>NAME OF UNIT/CONCEPT/SKILL</th>
<th>ENDURING UNDERSTANDING FOR THE UNIT</th>
<th>LEARNING OUTCOME</th>
<th>START DATE (dd/mm/yy)</th>
<th>END DATE (dd/mm/yy)</th>
</tr>
</thead>
</table>
| UNIT-1 : PLANNING IN SPORTS | • Meaning and Objectives of Planning  
• Tournaments  
• Procedure to Draw Fixtures  
• Intramural and Extramural  
• Specific Sports Programmes | 1.1 Understand role of Various Committees and Their Responsibilities (Pre, During and Post)  
1.2 Knock-out, League or Round Robin and Combination  
1.3 Procedure to Draw Fixtures – Knock-out (Bye and Seeding) and League  
1.4 Meaning, Objectives and Their Significance  
1.5 Specific Sports Programmers (Sports Day, Health Run, Run for Fun, Run for a Specific Cause and Run for Unity) | 12.2.2020 | 19.2.2020 |
|                           |                                     |                 | 20.2.2020             | 24.2.2020          |
|                           |                                     |                 | 25.2.2020             | 27.2.2020          |
|                           |                                     |                 | 28.2.2020             | 6.3.2020           |
|                           |                                     |                 | 11.3.2020             | 16.3.2020          |
| Unit 2: Sports and Nutrition | • Balanced Diet and Nutrition  
• Nutritive and Non-nutritive Components of Diet  
• Eating for Weight Control  
• Intolerance and Food Myths | • Balanced Diet and Nutrition: Macro and Micro Nutrients  
• Nutritive and Non-nutritive Components of Diet  
• Eating for Weight Control – A Healthy Weight,  
• the Pitfalls of Dieting, Food Intolerance  
• Food Myths | 17.3.2020 | 24.3.2020 |
|                           |                                     |                 | 25.3.2020             | 30.3.2020          |
| Unit 3: Yoga and Lifestyle | • Asanas as Preventive Measures | 3.1 Obesity: Procedure, Benefits and Contraindications for Vajrasana; | 31.3.2020 | 1.4.2020 |
| Unit 4: Physical education and sports for cwsn (childrens with special needs -Divyang) | • Concept of Disability and Disorder | 4.1 aims and objectives of adaptive physical education | 30.4.2020 |
| | • Types of Disorder, their Causes and Nature | 4.2 Cognitive Disability, Intellectual Disability, Physical Disability | 6.5.2020 |
| | • Types of Disability, their Causes and Nature | 4.3 (ADHD, SPD, ASD, ODD, OCD) Disability Etiquettes | 11.5.2020 |

| Project Discussion | Holiday Homework to be submitted on 10th July | 22nd may 2020 |

| Summer Break | 23rd may 2020 |

| Revision | Unit 1 to Unit 4 | Class test, Doubt clarification, Physical activity, Gelling up session | 1st June 2020 |

| Summer Break | 13 June 2020 |

| Block test | 1 July |

| Unit 5: Children and Women in Sports | • Motor Development | □ Motor Development and Factors Affecting it | 16 July 2020 |
| | • Exercise Guidelines at Different Stages | □ Exercise Guidelines at Different Stages of Growth and Development | 23rd July 2020 |
| | • Common Postural Deformities | Common Postural Deformities (Knock-knee, Flatfoot, Round Shoulders, Lordosis, Kyphosis, Bow legs and | 22nd July 2020 |
| | • Sports Participation of Women in India | | 27th July 2020 |
### Unit 6: Test and Measurement in Sports

<table>
<thead>
<tr>
<th>Activities</th>
<th>Description</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Fitness Test</td>
<td>Understand how to organize test</td>
<td>28.7.2020</td>
</tr>
<tr>
<td>General Motor Fitness</td>
<td></td>
<td>10.8.2020</td>
</tr>
<tr>
<td>Measurement of Cardiovascular Fitness – Harvard Step Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rikli and Jones: Senior Citizen Fitness Test</td>
<td></td>
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</tbody>
</table>

### Revision

<table>
<thead>
<tr>
<th>Revision Details</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 to 6 &amp; Practical preparation (AAHPERD, Yoga and skill)</td>
<td></td>
</tr>
<tr>
<td>Assignments, Class test, group discussions and practical preparation</td>
<td>6.8.2020</td>
</tr>
<tr>
<td></td>
<td>14.8.2020</td>
</tr>
</tbody>
</table>

### Unit 7: Physiology and Injuries in Sports

<table>
<thead>
<tr>
<th>Activities</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Effects of Exercises on Cardio-respiratory System</td>
<td>17.8.2020</td>
</tr>
<tr>
<td>20.8.2020</td>
<td></td>
</tr>
<tr>
<td>26.8.2020</td>
<td></td>
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<tr>
<td>19.8.2020</td>
<td></td>
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<tr>
<td>2.9.2020</td>
<td></td>
</tr>
<tr>
<td>7.2 Effects of Exercises on Cardio-respiratory System</td>
<td></td>
</tr>
<tr>
<td>7.3 Effects of Exercises on Muscular System</td>
<td></td>
</tr>
<tr>
<td>7.4 Physiological Changes due to Ageing</td>
<td></td>
</tr>
<tr>
<td>7.5 Sports Injuries: Classification, Causes and Prevention</td>
<td></td>
</tr>
</tbody>
</table>

### Unit 8: Biomechanics and Sports

<table>
<thead>
<tr>
<th>Activities</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1 Meaning and Importance of Biomechanics in Sports</td>
<td>3.9.2020</td>
</tr>
<tr>
<td></td>
<td>8.9.2019</td>
</tr>
</tbody>
</table>
| Unit 9: Psychology and sports | 8.1 Understanding of Personality, its Definition and Types  
8.2 Types of Movements (Flexion, Extension, Abduction and Adduction)  
8.3 Properties and functions of muscles  
8.4 Newton’s Laws of Motion and their Application in Sports  
8.5 Friction and Sports | 28.9.2020 | 7.10.20 |
|--------------------------------|---------------------------------------------------------------|----------------|-----------|
| Unit 10: Training in sports | 9.1 Definition and importance of psychology in physical education and sports  
9.2 Classification and Big Five Theory  
9.3 Enhancing Adherence to Exercise  
9.4 Adolescence problem and their management | 8.10.2020 | 14.10.2020 |
| Revision | 10.1 Definition, Types and Methods of Improving Strength  
10.2 Definition, Types and Methods to Develop Endurance  
10.3 Definition, Types and Methods to Develop Speed  
10.4 Definition, Types and Methods to Improve Flexibility  
10.5 Circuit Training – Introduction and its Importance | Assignments, Class test, group discussions and practical preparation | 15.10.2020 | 22.10.2020 |
| Part B: Project work | Practical preparation (AAHPERD, Yoga and skill) | Learning Outcomes for badminton  
1. Able to describe and identify the fundamental skills of Badminton. | | |
be on the mentioned dates.

2. Understanding BMI
3. It will provide them the opportunity to practice Asanas and understand their importance which can be useful to us in our day to day life.

| • Able to understand the rules and regulations of Badminton. |
| • Able to understand the history and facts related to Badminton. |
| • Able to understand tournament structure at National and International levels. |
| • Understand the importance and perform Asanas |
| • Able to mark a 400 meter track |