ENGLISH

Attempt the given tasks on white A4 size ruled sheets.

1. Imagine that M. Hamel’s sister was sitting on the last bench along with the village elders, while M. Hamel taught the class. On the next day brother and sister recount the events of the previous day. Write the conversation between brother and sister with a special emphasis on their emotions.

   OR

   Charlie and his wife discuss his strange experience at the Third Level of New York Central and the stranger case of their psychiatrist friend, Sam Weiner. Arrange the events in an interesting manner, giving all the details.

2. Rephrase any one of the following poems in the form of an essay with every detail mentioned in separate paragraphs.
   a) An Elementary School Classroom in a Slum
   b) Keeping Quiet

CHEMISTRY

Do the questions from the last five years board question papers for the units finished in class. Bring the blue print for the chemistry investigatory project to be performed in the laboratory for the CBSE board Practicals.

PHYSICS

projectspro.50webs.com

COMPUTER SCIENCE

Revise the chapters done in the class

BIOLOGY

Q1. When and why do some animals like frogs hibernate?
Q2. Name the interaction in each of the following:
   (a) Cuscus living on a shoe flower plant.
   (b) Mycorrhizae living on the roots of higher plants.
   (c) Clown fish living among the tentacles of sea anemone.
   (d) Koel laying its eggs in crow’s nest.

Q3. How do organisms manage with stressful conditions existing in their habitat for short duration? Explain with the help of one example each.
Q4. Why is the polar region not a suitable habitat for tiny humming birds?
Q5. Egrets are often seen along with grazing cattle. How do you refer to this interaction? Give a reason for this association.
Q6. Certain species of wasps are seen to frequently visit flowering fig trees. What type of interaction is seen between them and why?
Q7. List any two adaptive features evolved in parasites enabling them to live successfully on their hosts.
Q8. Which one of the two, stenothermal or eurythermal, shows wide range of distribution on earth and why?
Q9. Differentiate between a detritivore and a decomposer giving an example of each.
Q10. Name the pioneer and the climax species in a water body. Mention the changes observed in the biomass and the biodiversity of the successive seral communities developing in the water body.
Q11. State the difference between the first trophic levels of detritus food chain and grazing food chain.
Q12. About 200 species of Cichlid fish became extinct when a particular fish was introduced in Lake Victoria of Africa. Name the invasive fish.

Q13. The following graph represents the organismic response to a certain environmental condition (e.g., temperature):

(i) Which one of these, ‘a’ or ‘b’, depicts conformers?
(ii) What does the other line graph depict?
(iii) How do these organisms differ from each other with reference to homeostasis?
(iv) Mention the category to which humans belong.

Q14. Study the population growth curves in the graph given below and answer the questions that follow:

(i) Identify the growth curves ‘a’ and ‘b’.
(ii) Which one of them is considered a more realistic one and why?
(iii) If \( \frac{dN}{dt} = r N \frac{K - N}{K} \) is the equation of the logistic growth curve, what does \( K \) stand for?
(iv) What is symbolized by \( N \)?

Q15. Name the unlabeled areas ‘a’ and ‘b’ of the pie chart (given above) representing the global biodiversity of invertebrates showing their proportionate number of species of major taxa.

Q16. Thermal power plants are inevitable in an industrial and densely populated country like ours. What harm do they do to the environment? Also mention any precaution that could be taken to save our environment.

Q17. DDT content in the water of a lake that supplies drinking water to the nearby villages, is found to be 0.003 ppm. The kingfishers of that area were reported to have 2 ppm of DDT. Why has the concentration increased in these birds? What harm will this cause to the bird population? Name the phenomenon.

Q18. A factory drains its waste water into the nearby lake. It has caused algal bloom.
   (a) How was the algal bloom caused?
   (b) What would be the consequences?
   (c) Name the phenomenon that caused it.
Q19. Study the graph given below and answer the questions that follow:

(i) What is the relationship between dissolved oxygen and biochemical oxygen demand (BOD)?
(ii) Mention their effect on aquatic life in the river.

Q20(a) Expand BOD.

(b) At a particular segment of a river near a sugar factory, the BOD is much higher than the normal level. What is it indicative of? What will happen to the living organisms in this part of the river?

(c) Under what conditions will the BOD be lowered in the river? How will it affect the aquatic life?

Q21. Explain accelerated eutrophication. Mention any two consequences of this phenomenon.

Q22. A crane had DDT level as 5 ppm in its body. What would happen to the population of such birds? Explain giving reasons.

Q23. Explain the causes of global warming. Why is it a warning to mankind?

Particulate and gaseous pollutants along with harmless gases are released from the thermal power plants.

(i) Name any two harmless gases released.

(ii) Name the most widely used device of removing particulate pollutants from the air. Explain how the device is used.

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**ACCOUNTANCY**

1. Complete questions of Admission of a Partner from T S Grewal in the class work register.
2. Do the Board Questions assignment on Admission of a partner in revision register.

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**BUSINESS STUDIES**

Complete Business studies projects as discussed in the class

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**INFORMATICS PRACTICES**

Do the assignments and home work uploaded on [www.fascampuscare.in](http://www.fascampuscare.in)

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**PSYCHOLOGY**

Revise the topics done in Class. And practice questions given in class for chapters 1 to 4.
1) Do the assignments uploaded on campus care.
2) Prepare a project file as discussed in the class.

**Guidelines for Project Work in Economics (Class XI and XII)**

The project should be prepared in the following sequence:

1) Cover page should include the title of the project and students information (name, class & roll no.)
2) List of contents (Index)
3) Acknowledgement and Preface
4) Introduction
5) Objective of the project.
6) Content
7) Case Study (if any) or Articles from newspaper.
8) Bibliography

**Suggestive List of Projects:**

<table>
<thead>
<tr>
<th>Micro and Small Scale Industries</th>
<th>Food Supply Channel in India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Employment situation in India</td>
<td>Disinvestment policy of the government</td>
</tr>
<tr>
<td>Goods and Services Tax Act and its Impact on GDP</td>
<td>Health Expenditure (of any state)</td>
</tr>
<tr>
<td>Human Development Index</td>
<td>Inclusive Growth Strategy</td>
</tr>
<tr>
<td>Self-help group</td>
<td>Trends in Credit availability in India</td>
</tr>
<tr>
<td>Monetary policy committee and its functions</td>
<td>Role of RBI in Control of Credit</td>
</tr>
<tr>
<td>Government Budget &amp; its Components</td>
<td>Trends in budgetary condition of India</td>
</tr>
<tr>
<td>Exchange Rate determination – Methods and Techniques</td>
<td>Currency War – reasons and repercussions</td>
</tr>
<tr>
<td>Livestock – Backbone of Rural India</td>
<td>Alternate fuel – types and importance</td>
</tr>
<tr>
<td>Sarwa Siksha Abhiyan – Cost Ratio Benefits</td>
<td>Golden Quadrilateral- Cost ratio benefit</td>
</tr>
<tr>
<td>Minimum Support Prices</td>
<td>Relation between Stock Price Index and Economics Health of Nation</td>
</tr>
<tr>
<td>Waste Management in India – Need of the hour</td>
<td>Minimum Wage Rate – approach and Application</td>
</tr>
<tr>
<td>Digital India- Step towards the future</td>
<td>Rain Water Harvesting – a solution to water crises</td>
</tr>
<tr>
<td>Vertical Farming – an alternate way</td>
<td>Silk Route- Revival of the past</td>
</tr>
</tbody>
</table>
## Holiday Home Work - Class XII (2019-20)

<table>
<thead>
<tr>
<th>Make in India – The way ahead</th>
<th>Bumper Production - Boon or Bane for the farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rise of Concrete Jungle - Trend Analysis</td>
<td>Organic Farming – Back to the Nature</td>
</tr>
<tr>
<td>Any other newspaper article and its evaluation on basis of economic principles</td>
<td>Any other topic</td>
</tr>
</tbody>
</table>

### Expected Checklist:
- Introduction of topic/title
- Identifying the causes, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified.
- Short-term and long-term implications of economic strategies suggested in the course of research
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.
Chapter 5
Continuity and Differentiability

Sub-topic → Continuity and Differentiability

Objective → To check the given function for its continuity and differentiability at a particular point.

Q1. Is every continuous function differentiable? Justify your answer with an example.

Q2. Determine the value of ‘k’ if the given function is continuous.

\[ f(x) = \begin{cases} k \cos x & x < \frac{\pi}{2} \\ 3 & x = \frac{\pi}{2} \\ \frac{3 \sin 2x}{2x - \pi} & x > \frac{\pi}{2} \end{cases} \]

Q3. Find the value of ‘p’ if the given function is continuous.

\[ f(x) = \begin{cases} \frac{1 + x^2}{x^2} & -1 \leq x < 0 \\ \frac{2x + 1}{x - 2} & 0 \leq x \leq 1 \end{cases} \]

Sub-topic → Differentiation

Objective → To find the derivative of the given function using various methods of differentiation.
Q4. Differentiate the following functions w.r.t. x.

1) \( \log (\sin^2 x) \)

2) \( \tan^{-1} \frac{\sqrt{1+x^2} + \sqrt{1-x^2}}{\sqrt{1+x^2} - \sqrt{1-x^2}} \)

3) \( \tan^{-1} \frac{\sqrt{1+x^2} + \sqrt{1-x^2}}{\sqrt{1+x^2} - \sqrt{1-x^2}} \)

4) \( \tan^{-1} \frac{\sqrt{1+x^2} + \sqrt{1-x^2}}{\sqrt{1+x^2} - \sqrt{1-x^2}} \)

5) \( (1 + \log \sin x)^n \)

6) \( e^{\log (ax^2 + bx + c)} \)

7) \( \frac{2 \cos x}{x} \)

8) \( \cos mx \cos nx \)

Q5. Prove that derivative of \( \tan^{-1} \left( \frac{x}{\sqrt{1-x^2}} \right) \) w.r.t. \( x \)

Q6. If \( y = (\sin x) \cos x + (\cos x) \sin x \), find \( \frac{dy}{dx} \).

Q7. Differentiate \( \sqrt{4 + 4x + 4x^2} \) w.r.t. \( x \).

Q8. Differentiate \( y = \sin^{-1} \left( \frac{x^2 - 1}{x^2 + 1} \right) \) w.r.t. \( x \).

Q9. Find \( \frac{dy}{dx} \) if \( \tan^{-1} (x^2 + y^2) = a \).

Q10. If \( y = \sqrt{\sin x + \sqrt{\sin x + \cdots}} \), show that

\[
\frac{dy}{dx} = \frac{\cos x}{2y-1}
\]

Q11. If \( \log (x^2 + y^2) = 2 \tan^{-1} (\frac{y}{x}) \), show that \( \frac{dy}{dx} = \frac{x + xy}{x^2 - y^2} \).

Q12. If \( x = \sec^2 \theta \), \( y = \tan^2 \theta \), find \( \frac{dy}{dx} \) at \( \theta = \frac{\pi}{4} \).

Q13. If \( y = \log \left( \frac{x + \sqrt{x^2 + 1}}{x} \right) \), prove that

\[
(x^2 + 1) \frac{dy}{dx} + x \frac{dy}{dx} = 0
\]

Q14. If \( y = \frac{\sin x}{\sqrt{1-x^2}} \), show that \( (1-x^2) \frac{dy}{dx} - 3x \frac{dy}{dx} - \frac{dy}{dx} = 0 \).

Q15. If \( y = \tan^{-1} \left( \frac{x}{\sqrt{a^2 - x^2}} \right) \), then prove that

\[
\frac{dy}{dx} = \frac{a}{x^2 + a^2}
\]
Q16: Find \( \frac{dy}{dx} \) if \( y = \cos^{-1}\left( \frac{\sin x + \cos x}{\sqrt{2}} \right) \).

Q17: If \( \sin(x+y) + \sin y \cdot \cos(x+y) = 0 \) then prove that \( \frac{dy}{dx} = \frac{\sin^2(x+y)}{\sin y} \).

Sub-topic: Mean Value Theorems

Objective: To verify Rolle’s Theorem and Lagrange’s Mean Value Theorem for a function in the given interval.

Q18: Verify Rolle’s Theorem for \( f(x) = x(x+3)e^{-x^2} \) in \([-3, 0]\).

Q19: Using Rolle’s Theorem, find the points on the curve \( y = \cos x - 1 \) in \([0, 2\pi]\), where the tangent is parallel to x-axis.

Q20: Using mean value theorem, prove that there is a point on the curve \( y = 2x^2 - 5x + 3 \) between the points A(1,0) and B(2,1), where tangent is parallel to the chord AB. Also, find that point.

Q21: It is given that for the function \( f(x) = x^3 + bx^2 + ax \) \( x \in [1,3] \), Rolle’s theorem holds with \( c = 2 + \frac{1}{\sqrt{3}} \). Find the values of \( a \) and \( b \).

Q22: Verify Rolle’s Theorem for \( f(x) = \sin^4 x + \cos^5 x \) on \([0, \frac{\pi}{2}]\).
1. **PROJECT WORK**
   The project can be individual/pair/group of 4-5 each. The Project can be made on any of the topics given in the syllabus.
   The suggestive list of activities for project work is as follows:-
   - Role Play, Skit, Presentation, Model, Field Survey, Mock Drills/Mock Event etc.
   Project file has to be made as discussed in the class. Evidence in form of file, skit script and alike has to be kept for record.

2. **WRITTEN ASSIGNMENT**
   Complete Assignment 1 to 6 in notebook.

3. **READING TASK**
   Read newspapers especially the Editorial page every day.
   Read more about the International politics.

4. **ACTIVITY**
   a) Do an election result analyses through newspaper reports and articulate a report in your own words.
   b) Compare and contrast the election manifestos of BJP and Congress for general elections 2019.

**COMMON INSTRUCTIONS FOR PROJECT:**

a) Acknowledgement: People who have helped and inspired you in the making of the project.

b) Cover Page

c) Index

d) Introduction: Brief outline of the topic chosen - Reason for choosing the topic

e) Content: 20 pages (minimum)

f) The project should be handwritten.

g) Pictures (to support your content): To be pasted or drawn neatly.

h) Conclusion and Synopses: Your deductions and suggestions.

i) Bibliography: Mention the sources of reference.

**GUIDELINES FOR SUBMITTING THE PROJECT**

1. Use A4 size sheets.
2. It should be a hand written project (blue or black pen should be used).
3. You can use newspaper clippings, maps, diagrams and material from the web.
4. Each illustration should be supported with a write up/relevance to the topic.
5. The cover page should be written in bold letters with the topic, name and roll number.
6. Use hard bound cover pocket file.
GEOGRAPHY

1. Revise the topics done in class.
2. Complete the field study as instructed in the class.

Instructions

Use Pencil or Black Pen for labeling on the map.

Geography: Map items for identification only on outline political map of the world.
1. The largest country in each continent in terms of area.
2. (Primary Activity) Areas of subsistence gathering, major areas of nomadic herding, commercial livestock, extensive commercial grain farming, mixed farming of the world, major areas of Mediterranean agriculture of the world.
3. (Secondary Activity) Ruhr Region, Silicon Valley, Appalachian region, Great Lakes region.
4. Mega Cities of the World- Tokyo, Delhi, Shanghai, Mumbai, Sao Paulo
5. Major Airports
   - Asia: Tokyo, Beijing, Mumbai, Jeddah, Aden
   - Africa: Johannesburg, Nairobi
   - Europe: Moscow, London, Paris, Berlin and Rome
   - North America: Chicago, New Orleans, Mexico City
   - South America: Buenos Aires, Santiago
   - Australia: Darwin and Wellington

Maps for identification only on outline map of India.
1. Indian states and their capitals
2. Ports on Western Coast and Eastern Coast of India

SOCIOLOGY

I-based on the topic discussed in class students will be conducting research in society. By making use of questionnaire as a tool. Further, they will be doing the analysis of the data collected by them in a form of pie-chart.

II- students have to do assignment questions for Chapter 5 and Chapter 6 of Book 1. These questions are to be done in notebook.