

CLASS 11 SUMMER VACATION HOLIDAY HOMEWORK

ENGLISH CORE

Read any one English newspaper daily and cut out the classified ads (2 each) from it and paste it in your English notebook.

- For sale
 - Situation wanted
 - Lost and found
 - Situation vacant
 - Tour and travels
 - Matrimonial
2. Make a Power Point Presentation of Chapter-1 The Portrait of a Lady/ The Summer of the Beautiful White Horse including all the incidents and characters mentioned in the chapter. (About 10-12 slides)
 3. Watch Ted talks related to the Elderly People and express your opinion on the same in about 120-150 words in your English notebook.
 4. **Research about the winner of the 2023 Nobel Prize in literature and write an article in about 120- 150 words in your English notebook profiling his/her accomplishments.**

PROJECT WORK

- The Project can be inter-disciplinary in theme. The ideas/issues highlighted in the chapters/poems/ drama given in the prescribed books can also be developed in the form of a project.

❖ **Suggestions for Project Work:**

- i. Interview - based Research.
- ii. Listen to podcasts/interviews/radios or a TV documentary.
- iii. Students create their own Video/Audio.

❖ **Project - Portfolio/Project Report**

The Project - Portfolio/Project Report is a compilation of the work that the students produce during the process of working on their ALS Project. The Project-Portfolio may include the following:

- Cover page, with the title of the project, school details/details of students.
- Statement of purpose/objectives/goals.
- Certificate of completion under the guidance of the teacher.
- Action plan for the completion of assigned tasks.
- Materials such as scripts for the theatre/role play, questionnaires for interviews, written assignments, essays, reports, and other material evidence of learning progress and academic accomplishment.
- The 800-1000 words Essay/Script/Report.
- Student/group reflections. If possible, photographs that capture the positive learning experiences of the student(s).
- List of resources/bibliography.

PHYSICS

Solve the following questions:

Q1. Name the physical quantity represented by the dimensional formula $[ML^{-3}]$.

- a. Force b. Pressure c. Impulse d. Density

Q2. What will the nature of velocity- time graph for a uniform motion?

- a. A straight line parallel to time axis.
b. A straight line parallel to velocity axis.
c. A straight line inclined to time axis.
d. An irregular curve

Q3. A vector of the same magnitude but acting in a direction opposite to that of the given vector is called

- a. Negative vector b. Positive vector c. Zero vector d. Unit vector

Q4. Convert 1 Newton into dynes.

Q5. Assuming that the mass 'm' of the largest stone that can be measured by a flowing river depends on velocity 'v' of water, its density 'd' and acceleration due to gravity 'g'. Show that the mass varies directly as the sixth power of velocity of flow.

Q6. Check whether the given formula is dimensionally correct or not.

$$v^2 - u^2 = 2as$$

where v is final velocity, u is initial velocity, s is distance covered and a is acceleration produced in a moving body.

Q7. Write the dimension of a and b in the relation $P = b^{-x} t^2$ where P is power, x is distance and t is time.

Q8. An object is moving along positive x- axis with a uniform acceleration of 4 m/s^2 . At time $t=0 \text{ s}$, $x=4\text{m}$

and $v=2\text{m/s}$, find the velocity of the object at time $t= 3\text{s}$.

Q9. Who got Nobel Prize in Physics 2023? Give a brief description of his invention. (Include some pictures).

PROJECT WORK

- Prepare an investigatory project on one of the topic given below:
 - i. To study various factors on which the internal resistance/EMF of a cell depends.
 - ii. To find the refractive indices of a. water b. oil (transparent) using a plane mirror, an equi convex lens (made from a glass of known refractive index) and an adjustable object needle.
 - iii. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids.
 - iv. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/bulb in a circuit fed up by an A.C. source of adjustable frequency.
 - v. To investigate the relation between the ratio of :
 - a. output and input voltage and
 - b. Number of turns in the secondary coil and primary coil of a self-designed transformer.

CHEMISTRY

Solve the following questions:

Q1. Calculate the mass of sodium acetate (CH_3COONa) required to make 500 mL of 0.375 molar aqueous solution. Molar mass of sodium acetate is $82.0245 \text{ g mol}^{-1}$.

a. 15.380g b. 16.388g c. 17.420g d. 15.980g

Q2. Calculate the charge on one mole of electrons.

- a. 9.65×10^4 coulombs b. 9.65×10^{14} coulombs
c. 10.65×10^4 coulombs d. 9.65×10^3 coulombs

Q3. What is AZT? To which use is it being put?

Q4. Calculate the concentration of nitric acid in moles/litre in a sample which has a density 1.41 g mL^{-1} and the mass percent of nitric acid in it is being 63%.

Q5. 5g dinitrogen and 10g dihydrogen react with each other to produce ammonia according to the following chemical equation: $\text{N}_{2(\text{g})} + 3\text{H}_{2(\text{g})} \rightarrow 2\text{NH}_{3(\text{g})}$

- i. Will any of the two reactants remain unreacted?
ii. If yes, which one and what would be its mass?

Q6. A welding fuel gas contains carbon and hydrogen only. Burning a small sample of it in O_2 gives 3.38 g carbon dioxide, 0.690 g of water and no other products. Calculate the empirical formula.

Q7. Calculate the wavelength, frequency, and wave number of light wave whose period is $3.0 \times 10^{-10} \text{ s}$.

Q8. What was the theme of the Nobel Prize Summit 2023? In which field did the 2023 Nobel Prize in Chemistry recognizes and who received the 2023 Nobel Prize in Chemistry? Also give a brief Explanation of the invention. (Include some pictures).

Project Work

Prepare an investigatory project on one of the following topics: -

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study the quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with natural milk with respect to curd formation and the effect of temperature, etc.
- Study of the effect of Potassium Bisulphite as a food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of the following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Elaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

NOTE: Any other investigatory project, which is based on CBSE Curriculum (Class - XII).

BIOLOGY

Solve the following questions:

- Q1.** Organisms living in salty areas are called as _____.
- a. Methanogens b. Halophiles c. Heliophytes d. Thermoacidophiles
- Q2.** The five kingdom classification was proposed by
- a. R.H. Whittaker b. C. Linnaeus c. A. Roxberg d. Virchow
- Q3.** Differentiate between the male and female gametophytes of Pteridophytes and Gymnosperms.
- Q4.** Define Coelom. Explain the 3 types of organisms based on Coelom.
- Q5.** Provide a technical term for the following:
- i. Blood filled cavity in arthropods.
ii. A stinging organ of jellyfish.
iii. Free-floating form of Cnidaria.
iv. Lateral appendages in aquatic annelids.
- Q6.** Illustrate the taxonomical hierarchy with suitable example of plant and animal.
- Q7.** What are the reasons you can think of for the arthropods to constitute the largest group of the Animal Kingdom?
- Q8. Who won the Nobel Prize in Biology 2023? Give a brief explanation of the invention done.**
- Q9. Investigatory Project**
Prepare a **PROJECT FILE** which should be handwritten consisting of 25-30 A4 size sheets. The project report should be prepared in the following sequence:-
- Cover page should include the title of the Project, student information, school and year.
 - Certificate
 - Acknowledgement
 - Index
 - Project Content
 - Case study
 - Bibliography
- ❖ **List of Suggested Project Topics:**
- Students can select any one topic from the following-
- AIDS
 - DNA fingerprinting
 - Drugs and Alcohol
 - Cancer
 - Malaria
 - Test Tube Baby Programme
 - Biogas Plant
 - Sewage treatment
 - Chromosomal Disorders
 - Mendelian Disorders

- Pedigree analysis
- Allergy
- Dengue
- Recombinant DNA Technology

MATHEMATICS

Solve the following questions:

Q1. Let R be a relation on N defined by $x + 2y = 8$. The domain of R is:

- a. {2, 4, 8} b. {2, 4, 6, 8} c. {2, 4, 6} d. {1, 2, 3, 4}

Q2. The value of $(1 + i)(1 + i^2)(1 + i^3)(1 + i^4)$ is:

- a. 2 b. 0 c. 1 d. i

Q3. If $R = \{(x, y) : x, y \in Z, x^2 + y^2 \leq 4\}$ is a relation defined on the set Z of integers, then write the domain of R.

Q4. Evaluate: $(1 + i)^6 + (1 + i)^3$.

Q5. Write down all possible subsets of the following set {a, b, c}.

Q6. If $a+ib = x + iy$, prove that $a-ib = x - iy$ and $a^2 + b^2 = x^2 + y^2$.

Q7. If $a = \cos \theta + i \sin \theta$, find the value of $\frac{1+a}{1-a}$.

Q8. If $f(x) = x^2$, find $\frac{f(1.1) - f(1)}{(1.1) - 1}$.

Q9. A relation R is defined on the set Z of integers as: $(x, y) \in R \Leftrightarrow x^2 + y^2 = 25$. Express R and R^{-1} as the sets of ordered pairs and hence find their respective domains.

Q10. What specific areas of mathematics did the 2023 Fields Medal Winners focus on, and how did their work impact the field?

ACTIVITY

OBJECTIVE

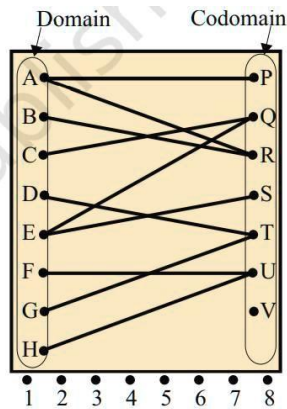
To identify a relation and a function.

MATERIAL REQUIRED

Hardboard, battery, electric bulbs of two different colours, testing screws, tester, electrical wires and switches.

METHOD OF CONSTRUCTION

1. Take a piece of hardboard of suitable size and paste a white paper on it.
2. Drill eight holes on the left side of board in a column and mark them as A, B, C, D, E, F, G and H as shown in Fig. 5.



- Drill seven holes on the right side of the board in a column and mark them as P, Q, R, S, T, U and V as shown in Fig. 5.
- Fix bulbs of one colour in the holes A, B, C, D, E, F, G and H.
- Fix bulbs of the other colour in the holes P, Q, R, S, T, U and V.
- Fix testing screws at the bottom of the board marked as 1, 2, 3, ..., 8.
- Complete the electrical circuits in such a manner that a pair of corresponding bulbs, one from each column glow simultaneously.
- These pairs of bulbs will give ordered pairs, which will constitute a relation which in turn may /may not be a function [see Fig. 5].

DEMONSTRATION

- Bulbs at A, B, ..., H, along the left column represent domain and bulbs along the right column at P, Q, R, ..., V represent co-domain.
- Using two or more testing screws out of given eight screws obtain different order pairs. In Fig.5, all the eight screws have been used to give different ordered pairs such as (A, P), (B, R), (C, Q), (A, R), (E, Q), etc.
- By choosing different ordered pairs make different sets of ordered pairs.

OBSERVATION

- In Fig.5, ordered pairs are_____.
- These ordered pairs constitute a_____.
- The ordered pairs (A, P), (B, R), (C, Q), (E, Q), (D, T), (G, T), (F, U), (H, U) constitute a relation which is also a_____.
- The ordered pairs (B, R), (C, Q), (D, T), (E, S), (E, Q) constitute a_____which is not a_____.

APPLICATION

The activity can be used to explain the concept of a relation or a function. It can also be used to explain the concept of one-one, onto functions.

APPLIED MATHEMATICS

Solve the following questions.

- mobiles, etc. and draw interesting conclusions.
- x. Check out the local newspaper and cut out examples of information depicted by graphs. Draw your own conclusions from the graph and compare it with the analysis given in the report.
 - xi. Analysis of population migration data – positive and negative influence on urbanization.
 - xii. Each day newspaper tells us about the maximum temperature, minimum temperature, and humidity. Collect the data for a period of 30 days and represent it graphically. Compare it with the data available for the same time period for the previous year.
 - xiii. Vehicle registration data – correlating with pollution and the number of accidents.
 - xiv. Weather prediction (prediction of monsoon from past data).
 - xv. Visit Kirana shops near your home and collect the data regarding the sales of certain commodities over a month. Try to figure out the stock of a particular commodity which should be in the store in order to maximize the profit.
 - xvi. Risk assessments by insurance firms from data.
 - xvii. Predicting stock market crash.
 - xviii. Predicting the outcome of an election–exit polls.
 - xix. Predicting mortality of infants.

ACCOUNTANCY

Solve the following questions:

- Q1.** Who would most likely use an entities' financial report to determine whether or not the business entity is eligible for a loan?
- a. Lenders and financial institutions b. Debtors c. Government d. Customer
- Q2.** Mr. A an electronic goods dealer, gifted a TV of value of Rs.25,000 to his friend Mr. B. It will be recorded in books as:
- a. Drawings b. Expenses c. Capital d. Sales
- Q3.** A firm earns a revenue of Rs.20,000 and the expenses to earn this revenue are Rs. 12,000. Calculate its income.
- a. Rs.20,000 b. Rs.12,000 c. Rs. 8,000 d. Rs.32,000
- Q4.** What are the objectives of accounting?
- Q5.** What do you mean by an asset and what are the different types of assets?
- Q6.** Explain internal users of accounting information and their needs.
- Q7.** Explain the Liabilities. What are the Non-Current and Current Liabilities?
- Q8.** Closing stock is valued at lower of cost or market price, which concept of accounting is applied here ? explain.
- Q9.** Capital is a liability for the business. Explain this statement with the principal applied.
- Q10.** What are some big excellency awards in the accounting profession? Make the list.

◆ Activity

1. Identifying financial transactions and events of any sole proprietorship business.

2. Measure the transactions.
3. Calculate Expenses, incomes and profit (loss), assets and liabilities and all of these are to be depicted using pie chart / bar diagram.

ECONOMICS

Solve the following questions:

Q1. Statistics in plural sense deals with :

- a. Numerical information of data
- b. Methods of collection
- c. Methods of presentation of data
- d. Both a & c

Q2. Data collected from 'The Hindu' is

- a. Secondary data
- b. Primary data
- c. Both a & b
- d. Tertiary data

Q3. Opportunity cost is the:

- a. Number of units sacrificed gained
- b. Number of units
- c. Cost of next best alternative forgone alternative gained
- d. Cost of next best

Q4. Explain qualities of good questionnaire.

Q5. Explain limitations of Statistics.

Q6. Explain difference between Primary and secondary sources of data.

Q7. Explain PPC with the help of schedule and curve.

Q8. Define micro economics and macro economics. Give two examples of each.

Q9. Production in an economy is below its potential due to unemployment.

Government starts employment scheme. Explain effects on PPC.

Q10. Write achievements of Nobel prize winner in the field of Economics in the year 2023.

◆ Activity

Prepare a sample questionnaire of Consumer Eating Preferences/Consumer Awareness Amongst Household Articles/Mobile Phone Network Service Providers with at least 10 questions in it. Perform this survey with 10 different people and record the differences of preferences using statistical tools. Also add conclusion at the end of report.

BUSINESS STUDIES

Solve the following questions:

Q1. Which of the following is not a characteristic of the sole proprietorship form of organisation?

- a. There is ease in formation as well as closure of business.
- b. Sole proprietors have limited liability.
- c. The sole proprietor can carry out his plans without any interference from others.
- d. Death, insanity, imprisonment, physical ailment or bankruptcy of the sole proprietor will have a direct and detrimental effect on the business

and may even cause closure of the business.

- Q2.** Identify the document used for carrying out transactions in which money passed from hand to hand in ancient times.
- a. Checks b. Bill of exchange c. Hundi d. Demand Draft
- Q3.** Describe the different types of risk involved in business transactions.
- Q4.** Define business. Distinguish it from profession and employment.
- Q5.** 'Although earning profit cannot be the only objective of a business, its importance cannot be ignored.' What are multiple objects of a business? Explain other three objectives. Also state why profit is Important?
- Q6.** According to Partnership Act,1932 it is not compulsory for a partnership firm to get itself registered, then why do partners prefer to get the firm registered?
- Q7.** Why is it important to choose an appropriate form of organisation? Discuss the factors that determine the choice of form of organisation.
- Q8.** What is the effect of conclusiveness of the 'Certificate of Incorporation' and 'Commencement of Business'?
- Q9.** Distinguish between 'Memorandum of Association' and 'Article of Association'.
- Q10.** What are some big excellency awards in the business industry? Make the list of businessmen who won the prize in the respective fields.

◆ **Activity**

During summer break visit to any Departmental store in the city with your parents and make a project report/ observation report (consisting 10 to 12 pages) which must include:

- Different departments and their layout
- Nature of products offered for sale
- Display of fresh arrivals
- Promotional campaigns
- Spaces and advertisements
- Assistance by Sales Personnel
- Billing counter at store- cash, credit card/ debit card, swipe facility. Added attractions and facilities at the counter.
- Additional facilities offered to customers

Student may add any other relevant information to the report and will submit after summer break.

INFORMATICS PRACTICES

Solve the following questions:

- Q1.** What is the full form of PROM?
- a. Program Read Only Memory b. Perfect Read Only Memory
c. Programmable Read Only Memory d. Progressive Read Only Memory
- Q2.** 1024 Bytes = _____
- a. 1 KB b. 1024 MB c. 1 MB d. 1 GB
- Q3.** A shortcut key to run module is _____.
- a. F6 b. F5 c. F8 d. Ctrl+M
- Q4.** Identify the following:
- i. I am known as the main memory.

Q3. _____ which refers to the fashion business within the country Explain fashion according to an average person and psychologist and _____ which refers to the export-import business.

Q4. Explain fashion according to an average person and psychologist.

Q5. Explain different factors influencing fashion.

❖ **Project File/Portfolio**

Task I: Prepare a file of A3 size and cover it and decorate it beautifully.

Task II: Design a jewellery using any waste material.

Task III: On a given croqui, draped a dress of any character you inspired by any movie, novel, Fantasy story etc.

Task IV: Do research on any 2 renowned National and International Fashion designer and prepared Collage on each designer with their designs on A3 size sheet. DO NOT PLAGARIZE! Arrange them in your file.

Task V: Prepare any design using different kinds of lines.

Task VI: Prepare a design using animal print.

Task VII: Prepare a collage of Noble Prize winners of 2023.

POLITICAL SCIENCE

Solve the following questions:

Q1. Which of the following is best description of fundamental rights?

- a. All the rights an individual should have.
- b. All the rights given to citizens by law.
- c. The rights given and protected by the Constitution.
- d. The rights given by the Constitution that cannot ever be restricted.

Q2. In the context of Indian Constitution, the term used for justifiable constraints is.

- a. Valid restrictions
- b. Justifiable restrictions
- c. True restrictions
- d. Reasonable restrictions

Q3. "Constitution of India is based on a vision". Do you agree with this statement. Give reason to support your answer.

Q4. How politics and government influence our daily life?

Q5. The Constitution of India encourages equal respect between communities. Discuss.

Q6. Which of the Fundamental Rights is in your opinion the most important right? Summarize its provision and give arguments to show why it is most important.

Q7. Several reports show that caste groups previously associated with scavenging are forced to continue in this job. Those in positions of authority refuse to give them any other job. Their children are discouraged from pursuing education. Which of their Fundamental Rights are being violated in this instance? Give reason.

Q8. "Politics is more than what politicians do". Do you agree with this statement? Give examples.

Q9. Nelson Mandela and F.W. De Clerk awarded 1993 Nobel Peace Prize for momentous contribution to peaceful elimination of apartheid in South Africa. Why did Nelson win a Nobel Peace Prize? What are the reasons to win Nobel Peace Prize? What are three interesting facts about Nelson Mandela?

Project Work

Prepare a **PROJECT FILE** which should be handwritten consisting of 25-30 A4 size sheets.

The project file should be prepared in the following sequence-

- Cover page should include the title of the Project, student information, school and year.
- Certificate
- Acknowledgement
- Index
- Introduction of topic/title
- Statement of purpose/Need and objective of the study
- Hypothesis/Research question
- Review of literature
- Presentation of evidence
- Methodology
- Questionnaire

❖ **Significance and relevance of the topic**

- Challenges encountered while conducting the research
- Content analysis and its relevance in the current scenario
- Conclusion
- Limitation
- Bibliography
- Annexures and overall presentation
- Project must be made presentable with the help of images, graphs, pie-charts, diagrams.
- Different forms of Art must be included/may be integrated in the project work.

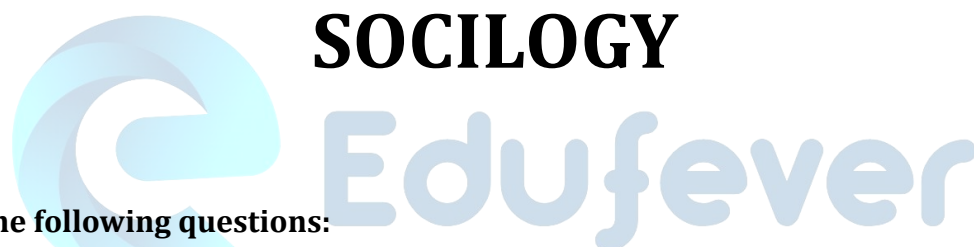
❖ **List of Suggested Topics:**

Students can select any one topic from the below mentioned topics-

- Making of the Constitution.
- Elections in India.
- Working of the Indian Judiciary System.
- Social Justice: Are ethics followed in Indian Politics
- Human Rights Act and its gratification in India.
- Political impact on Indian Legislation.

Project Work	
Assessment Rubrics	Marks

<ul style="list-style-type: none"> ● Introduction of topic/title ● Statement of purpose/Need and objective of the study ● Hypothesis/Research question ● Review of literature ● Presentation of evidence ● Methodology ● Questionnaire ● Data collection 	6
<ul style="list-style-type: none"> ● Significance and relevance of the topic ● Challenges encountered while conducting the research 	5
<ul style="list-style-type: none"> ● Content analysis and its relevance in the current scenario ● Conclusion ● Limitation ● Bibliography ● Annexures and overall presentation 	5
External/Internal Viva based on the project	4
Total	20



Solve the following questions:

- Q1.** Whose idea led to the comparison of the society with living organisms?
a. Max Weber b. August Comte c. Charles Darwin d. Karl Marx
- Q2.** The Indira Awas Yojana, operationalized from_____is a major scheme by the government’s Ministry of Rural Development (MORD) and Housing of Urban Development Corporation to construct houses free of cost for the poor and the homeless.
a. 1999-2000 b. 2001-2002 c. 2002-2003 d. 2003-2004
- Q3.** “Carrying forward of culture took place in the society”. Name the concept associated with it. **Q4.** Name two features of English society which changed after the advent of Industrial Revolution? **Q5.** How diversity prevalent in India makes understanding about society difficult?
- Q6.** Contestation, crime and violence are always present in social order. Elaborate.
- Q7.** “Technological changes do not always ensure a significant impact”. Justify.
- Q8.** Explain the relation between personal problem and public issue?
- Q9. Why is there Nobel prize in sociology? Name any three Nobel prize winners in sociology and explain their contribution?**

Project Work

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 - Significance and relevance of the topic
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 - Bibliography
 - Annexures and overall presentation
 - Project must be made presentable with the help of images, graphs, pie-charts, diagrams etc.
 - Different forms of Art must be included/may be integrated in the project work

List of Suggested Topics:

Students can select any one topic from the below mentioned topics-

- Need for women empowerment in India
- Climate and its affect on society
- Joint family - is it eroding in India
- Impact of social media on our society
- Social inequality and Social exclusion
- Family and Kinship
- Globalisation and Mass Media
- Impact of Westernisation on people
- Significance of family planning in controlling population
- Domestic violence
- Crime and delinquency in and its affect on society
- Child marriage practice in India
- Impact of Industrialisation on people
- Is Marriage as an institution collapsing in India
- Cultural diversity in India
- Status of education in low income group Indian society

Project Work	
Assessment Rubrics	Mark

	S
<ul style="list-style-type: none"> ● Introduction of topic/title ● Statement of purpose/Need and objective of the study ● Hypothesis/Research question ● Review of literature ● Presentation of evidence ● Methodology ● Questionnaire ● Data collection 	5
<ul style="list-style-type: none"> ● Significance and relevance of the topic ● Challenges encountered while conducting the research 	5
<ul style="list-style-type: none"> ● Content analysis and its relevance in the current scenario ● Conclusion ● Limitation ● Bibliography ● Annexures and overall presentation 	5
External/Internal Viva based on the project	5
Total	20

