VIDYASAGAR SCHOOL, INDORE
SUMMER ASSIGNMENT-2025-26
Class- XII

English

Q-1 English Project Work to be completed.

Hindi

Q-1 सी. बी. एस. ई. के निर्देशानुसार परियोजना कार्य।

Maths

Q.1 Differentiate the following functions w. r.t x
   (i) $\sec(\log x^n)$ (ii) $\log \tan(\frac{\pi}{4} + \frac{x}{2})$

Q.2 if $= \left[x + \sqrt{x^2 + a^2}\right]^n$, then prove that $\frac{dy}{dx} = \frac{ny}{\sqrt{x^2+a^2}}$

Q.3 If $x\sqrt{1+y} + y\sqrt{1+x} = 0$, and $x \neq y$, prove that $\frac{dy}{dx} = \frac{-1}{1+x^2}$

Q.4 Find $\frac{dy}{dx}$ if $(x^2 + y^2)^2 = xy$

Q.5 $\tan(x+y) + \tan(x-y) = 1$, find $\frac{dy}{dx}$

Q.6 If $y = (\sin x)^{\tan x} + (\cos x)^{\sec x}$, find $\frac{dy}{dx}$

Q.7 If $x^y + y^x = 2$, find $\frac{dy}{dx}$

Q.8 If $x^{16}y^9 = (x^2 + y)^{17}$, prove that $x\frac{dy}{dx} = 2y$

Q.9 If $x = \frac{\sin^3 t}{\sqrt{\cos 2t}}$, $= \frac{\cos^3 t}{\sqrt{\cos 2t}}$, find $\frac{dy}{dx}$.

Q.10 Differentiate $(\log x)^x$ with respect to $\log x$.

Q.11 if $x = a(\theta - \sin\theta)$ and $y = a(1 + \cos\theta)$, find $\frac{dy}{dx}$ at $\theta = \frac{\pi}{3}$

Q.12 If $= A\cos(\log x) + B\sin(\log x)$, prove that $x^2\frac{d^2y}{dx^2} + x\frac{dy}{dx} + y = 0$

Q.13 If $y = x\log\left(\frac{x}{a+bx}\right)$, Prove that $x^3\frac{d^2y}{dx^2} = \left(x\frac{dy}{dx} - y\right)^2$

Q.14 Find $\frac{d^2y}{dx^2}$, if $x = at^2, y = 2at$

Q.15 If $y = e^x(\sin x + \cos x)$ prove that $y_2 - 2y_1 + 2y = 0$

Physics

Q-1 Project work

Chemistry

1. To prepare investigatory project report.
2. Work sheet questions
   a. To solve NCERT intext questions of coordination compounds.
   b. Difference between double salt and complex salt.
   c. Write one example of each : Ionisation isomerism, solvate isomerism, linkage isomerism, Optical isomerism, Geometrical isomerism
   d. Explain geometrical isomerism for the complex containing Coordination number 6 and type of complex MX3Y3
   e. Practice for IUPAC names of complexes (examples from NCERT)
   f. Draw diagrams to show splitting of d-orbitals in octahedral and tetrahedral complexes

Biology

Q.1 Write comments (6 comments) on following spots and draw labelled diagram:

Q.2 Flowers adapted to pollination by different agencies (wind, insects,).

Q.3 Identification of stages of gamete development, i.e., T.S. of testis

Q.4 T.S. of ovary through permanent slides .

Q.5 T.S. of blastula through permanent slides (Mammalian).

Q.6. Mendelian inheritance using seeds of different colour/sizes of any plant.

Q.7. Prepared pedigree charts of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.

Q.8. Controlled pollination - emasculation, tagging and bagging.

Q.9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or
Specimens. Comment on symptoms of diseases that they cause.

Q.10 Models specimens showing symbiotic association in lichens, root nodules of leguminous plants, and parasitic mode of nutrition shown by Cuscuta on host.
 Flash cards / models showing examples of homologous and analogous organs.

Q.11 Major Experiment; Isolate DNA from available plant material such as spinach, green pea seeds, papaya, banana etc.

Q.12 Minor Experiment: Study the plant population density by quadrat method.

Q.13 Minor Experiment: Study the plant population frequency by quadrat method.

Q.14 Slide Preparation; Prepare a temporary mount to observe pollen germination.

Q.15 Slide Preparation; Prepare a temporary mount of onion root tip to study mitosis. (Also draw diagrams of all stages)

(These activities should be written in practical record file)

Q.16 Prepare Investigatory Project and its Project Record file.

Accountancy

1.P and Q were partners in a firm sharing profits in 3:1 ratio. Their respective fixed capitals were ₹10,00,000 and ₹6,00,000. The partnership deed provided interest on capital @ 12 % p.a. even if it will result into a loss to the firm. The net profit of the firm for the year ended 31st March, 2023 was ₹1,50,000.

Pass necessary journal entries in the books of the firm allowing interest on capital and division of profit/loss amongst the partners.

2. A, B and C are partners share profits and losses in the ratio of 3:2:1. Their capitals ₹1,00,000, ₹75,000 and ₹50,000 respectively. They agreed to allow interest on capital @ 10 % p.a. and agreed to charge interest on drawings @10% p.a. Their drawings for the year were ₹10,000, ₹8,000 and ₹6,000 respectively. C was very active getting a salary of ₹2,000 per month. Actual profit for the year 2024 was ₹75,000. Prepare Profit and Loss Appropriation Account and Partners Capital Account

3.(Interest on capital). A and B started business on 1st April. 2024 with capital of 60,000 and 40,000 respectively. During the year A introduced 10,000 as additional capital on 1.7.2024.They withdrew 500 p.m. for household expenses in lien of profits, Interest on capital is to be allowed @10% p.a. Calculate the Interest in capital payable to A and B for the year ending 31st March 2025.

4.Kanika and Gautam are partner's. Doing a dry cleaning business in Lucknow, sharing profits in the ratio 2:1 with capitals Rs.5,00,000 and Rs.4,00,000 respectively.

Kanika withdrew the following amounts during the year to pay the hostel expenses of her son.

Rs.	Rs.	Rs.	Rs.

1st April 10,000   1st June 9,000   1st Nov. 14,000   1st Dec. 5,000 Gautam withdrew Rs.15,000 on the first day of April, July, October and January to pay rent for the accommodation of his family. He also paid Rs.20,000 per month as rent for the office of partnership which was in a nearby shopping complex. Calculate interest on Drawings @6% p.a.

5.Seema and Meena decided to start a partnership firm to manufacture low cost jute bags as plastic bags were creating many environmental problems. They contributed capitals of Rs 1,00,000 and Rs.50,000 on 1st April 2023 for this. Seema expressed her willingness to admit Neema as a partner without capital, who is specially abled but very creative and intelligent friend of her. Meena agrees to this. The terms of partnership were as follows:

(i)   Seema, Meena and Neena will share profits in the ratio of 2:2:1.

(ii)   Interest on Capital will be provided @6%p.a.

Due to shortage of Capital , Seema contributed Rs.25,000 on 30th September 2023 and Meena contributed Rs10,000 on 1st January 2024as additional Capital. The profit of the firm for the year ended 31st March 2024 was Rs1,68,900.

Prepare the profit and loss Appropriation account for the year ended 31st march 2024

Business Studies

Q1. Anjali Sharma is working in a private sector bank. One of her key function relates to the formulation of the overall organizational goals and strategies of the bank. Identify the level of management at which she is working? State any three other functions that she has to perform at this level.

Q-2 'Sonu Nigam' the famous playback singer always spends time for practice and adds his creativity in his singing. Like Sonu Nigam, Mr. Rajiv, manager of Headlines Ltd. uses his creativity and practice management principles under different situations to manage the business. The employees are happy and satisfied as he every day reward employees for their punctuality and efficiency.
1. Identify the nature of management highlighted above.
2. Name other two aspects of nature of management.

Q-3 The manager of Sigma Ltd. is very efficient and effective and makes sure all the employees and workers in his team perform the task on time with minimum cost. His main focus is on cost cutting so he never listens to the demand of workers for increasing wages. He even gives no opportunity to worker for promotion. As a result workers started becoming frustrated and disheartened all the time.

Q4.Identify the characteristics of management in the following cases:
[1] It creates an environment of productive relations, keeps all stakeholders happy and satisfied.
[2] All regional sales manager of GOODLUCK LTD worked towards achievement of companies annual sales targets of 50m toys.
[3] Management sets targets and units efforts of all individuals to accomplish them.
[4] A business needs to manage all activities from its start to finish.

Q5.Kashish Ltd. is facing a lot of problems these days. It manufactures electronic goods like washing machines, microwave ovens, refrigeration and air-conditioners. The company's margins are under pressure and the profits and market marketing department blames production department for producing goods, which are not of good quality to meet customers' expectations. The finance department blames both production and marketing departments for declining return on investment and bad marketing.
1. What quality of management do you think the company is lacking? Justify your answer.
2. State the importance of the concept identified in (a).

Q6. Ambuja Ltd. is a well-known cement company in India. It is able to earn adequate revenues to cover costs. Its capital base, number of employees and production turnover has increased manifolds over the years. The rate of profitability of the business is also creditable. The employees of the company are happy and satisfied with their remuneration, working conditions, promotion policy etc. As a part of its moral obligation, the company has taken many initiatives for providing employment to specially abled persons and promoting literacy in the villages adopted by it.
In the context of the above case:
Identify and explain the various types of objectives of management being fulfilled by Real Alliance Ltd by quoting lines from the paragraph.
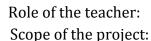
Economics
Summer assignment (PROJECT WORK)
The expectations of the project work are that:
• learners will complete only ONE project in each academic session
• project should be of 3,500-4,000 words (excluding diagrams & graphs), preferably hand-written

- it will be an independent, self-directed piece of study
  Role of the teacher:
  Scope of the project:
  Learners may work upon the following lines as a suggested flow chart:
  Choose a title/topic
  Collection of the research material/data

Organization of material/data

Present material/data

Analysing the material/data for conclusion

Draw the relevant conclusion

Presentation of the Project Work 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.

Applied Maths

Q.1 Find the last two digits of the product 4895×6789.

Q.2 Two vessels P and Q contain milk and water in the ratio 5:3 and 13: 3 respectively. In what ratio mixtures from two vessels should be mixed to get a new mixture containing milk and water in the ratio 3 : 1 respectively?

Q.3 Two pipes can fill the tank in 20minutes and 24 minutes respectively and a waste pipe can empty3 gallons of water per minute If all the three pipes working together can fill the tank in 15 minutes, find the capacity of the tank?

Q.4 Find all pairs of consecutive positive integers, both of which are larger than 5, such that their sum is less than 23.

Q.5 A boat goes 30 km downstream and comes back to the starting point in 4 hours and 30 minutes. If the speed of the boat in still water is 15 km/h, find the speed of the stream.

Q.6 Find the remainder when 987+876+765+654+543+432+321+210 is divided by 6.

Q.7 It is 7:00 P.M. currently. What time (in A.M.or P.M.) will be in the next 1500 hours?

Q.7 A dealer has 1000 kg sugar and he sells a part of it at 8% profit and the rest of it at 18% profit. The overall profit he earns is 14%. What is the quantity which is sold at18% profit?

Q.8 Tea worth Rs.126 per kg and Rs135perKg are mixed with a third variety in the ratio 1:1:2. If the mixture is worth Rs 153 per Kg, find the price of the third variety in per Kg.

Q.9 How many litres of 25% solution of acid, should be added to 600 litres of 10% solution of acid so that the resulting mixture will contain more than 12% but less than 15% of acid content?

Q.10 Two pipes can fill a cistern in 8 and 12 hours respectively. The pipes are opened simultaneously and it takes 12 minutes more to fill the cistern due to leakage. If the cistern is full what will be the time taken by the leakage to empty it?

Q.11 If $x \equiv 4(mod\,7)$ then find positive values of .

Q.12 In a 50m race A can give a start of 5m to B and a start of 14 m to C .In the same race how much start can B give to C?

Q.13 Solve the inequality for real x : 3 (2 – x) ≥ 2 (1 – x)

Q.14 Solve: -5 $\leq \dfrac{z-3x}{4} \leq$ 9

Q.15 Show that the following system of linear inequalities has no solution: x + 2y≤3, 3x + 4y> 12,x≥0,y≥ 1

Q.16 Solve : 3(x – 2)/5 ≤ 5 (2 – x)/3

Q.17 Ravi obtained 70 and 75 marks in the first two unit tests. Find the minimum marks he should get
in the third test to have an average of at least 60 marks.

EP

Part A -
PROJECT WORK: Students have to do one project.
Topic for the Project: <u>Market Survey on Any Innovative Product</u>
Note: Students need to complete the project as per the Guidelines given in the CBSE Textbook.
<u>Use A4 size White/Colour hard sheets only</u>

<u>Steps involved in the conduct of the project:</u>
  I. Cover page [Printed]
 II. Acknowledgement [Printed]
III. Certificate [Printed]
IV. Index -
  1. Introduction to Market Research
  2. Introduction to Market Survey
  3. Different Methodologies of Market Research and Survey
  4. Executive Summary of Product
  5. Introduction of Product
  6. Profile of the Organisation
  7. SWOT Analysis of the Product
  8. Competitors-
  I. Introduction of 1st Competitor and its SWOT Analysis
 II. Introduction of 2nd Competitor and its SWOT Analysis
III. Introduction of 3rd Competitor and its SWOT Analysis
IV. Introduction of 4th Competitor and its SWOT Analysis
  9. Questionnaire - (10 to 12 Questions on One Page only) [Printed]
  10. Responses - (25 nos.) [Printed]
  11. Analysis and interpretation - (Either by Bar or Pie Diagram)
  12. Conclusion
  13. Bibliography

Part B - Prepare a **<u>Detailed Flow Chart</u>** of Chapter 1

History

Project Work:

TOPIC: Students can select any of the one Theme given in their NCERT BOOK among Theme 1 to 15.

Few Suggestive Topics:

1. The Indus Valley Civilization-Archaeological Excavations and New Perspectives

2. The History and Legacy of Mauryan Empire

3. "Mahabharat"- The Great Epic of India

4. The History and Culture of the Vedic period

5. Buddha Charita

6. A Comprehensive History of Jainism

7. Bhakti Movement- Multiple Interpretations and Commentaries.

8. The Mystical Dimensions of Sufism

9. Global Legacy of Gandhian Ideas

10. The Architectural Culture of the Vijayanagar Empire

11. Life of Women in the Mughal Rural Society

12. Comparative Analysis of the Land Revenue Systems Introduced by the Britishers in India

13. The Revolt of 1857- Causes; Planning & Coordination; Leadership, Vision of Unity

14. The Philosophy of Guru Nanak Dev

15. The Vision of Kabir

16. An Insight into the Indian Constitution

17. Comparative Study of Stupas and Pillar Edicts

18. Comparative Study of Mughal and Vijayanagar Architecture

Steps involved in the conduct of the project: Students may work upon the following lines as suggested**:**

1. Choose a Title/Topic

2. Need of the Study, Objective of the Study

3. Hypothesis

4. Content -Timeline, Maps, Mind maps, Pictures, etc. (Organization of Material/Data Present Material/Data)

5. Analysing the Material/Data for Conclusion

6. Draw the Relevant Conclusion

7. Bibliography

8. Art integrated Activities, experiments, models, quizzes, role plays, group work, portfolios, etc., along with teacher assessment. The Project work can culminate in the form of Power Point Presentation/ Exhibition/ Skit/albums/files/song and d a n c e or c u l t u r e show /story telling/debate/panel discussion, paper presentation.

[Prepare project on A4 Size sheet, total number of pages 40, must be hand written]

Assignment:

Write Short Notes on given Topics:

1. Seals, Script, Weights of Harappan Civilisation.

2. Food Habits of Harappan People.

3. Agricultural Techniques Using by Harappan People.

4. Social and Economic Differences among Harappan People.

5. Craft Production of Harappan People.

6. Acquiring Materials for Craft.

7. Religious Belief of Harappan People.

8. Caste System in Harappan Civilisation.

9. A Planned Town of Harappan Civilisation Mohenjo-Daro.

10.The End of Harappan Civilisation.

SOCIOLOGY

Students will prepare their respective project topics.

Prepare **PPT and Model** related to their **Project.**

Assignments

1) Write the Demographic theories.

2) Write all the common concepts of demography.

3) Discuss the family planning programme.

4) Discuss the two principles on which caste is based

5) What was the contribution of colonialism on caste in India.

POL.SCIENCE

PROJECT WORK- Students will select any one topic from NCERT book for project work, under the following steps -
TOPIC- (Selection of the topic from NCERT book or from the given topics)
Objectives of the project
Theoretical information
Collection of primary sources
Collection of data and it's interpretation

Preparation for PPT and other supporting materials like songs, storytelling, Role play, Skit, Model and Field survey.
Collection of newspaper cutting, pictures related to topic
ASSIGNMENT -
Prepare a Time Line Table for Disintegration of USSR

PSYCHOLOGY

1. Select 5 vocations and gather information about the nature of work done by people in these vocations. Also analysed these vocations in terms of the types of psychological attributes required for successful performance. Write a report in 150-200 words.
2. Case Study: Basic information of the subject along with types of tests to be conducted.
3. Watch a movie/ video on some psychological attribute/disorder and write a review in 100-150 words.

CS

1.Functions- Solve Back Exercise all questions.
2.RDBMS/ MySQL- Learn Queries (all commands) & solve Back Exercise all tables based questions

PE

Q1.   What do you mean by Sports Management explain its five parts (Phases).

Q2.   Explain various functions of sports management.

Q3.   Explain any five main sports committees and their Responsibilities (pre, during, post) to organize any sports Event.

Q4.   Explain term Tournament and Fixture .Write various types of tournament?

Q5.   What do you mean by Knock-out tournament? .Explain its Merits and Demerits.

Q6.   Define League or Round robin tournaments and its types. Explain its Advantages and Demerits.

Q7.   Draw a knock out and League Fixture of 19 teams and find out no. of Byes, no.of teams in upper half and lower half.

Q8.   What do you mean by Intramural .Explain its objectives, principles and importance?

Note: Dear students please write answers of above questions in your PE notebook.

Q9.   PROJECT WORK:-Write History, rules & regulations, terminology, Equipments, Personalities, skills of your opted game. Draw a labeled diagram of your opted game play field area.

Note: Dear students please write above project work in your PE Practical file.

NCC

Project is to be selected one each from group A and group B
Assignment/Project- 07 Marks
 Distribution of Marks
i) Introduction-01 Mark
ii) training Aid-01 marks
iii) Aim- 01 Mark
iv) Explanation-03 Marks
v) Precautions -01 Marks
Suggested Topics for Assignments/Projects
  Group A
1.National Integration
2.Contribution of Youth in Nation Building
3. NGOs -Role and Contribution
4. Fire Service And Fire Fighting
5. Dowry
6. Time Management
7. Personality
8. Communication skills
9. Drug Abuse and Trafficking
10. Adventure Training -Parasailing
    Group B
1.Squad Drill
2.Guard Mounting
3. Trigger Operation
4. Theory of Grouping and Snap
5. Fire Fighting
6. Natural Disasters
7. Hygiene and Sanitation
8. Basics of First Aid
9. Rain Water Harvesting
10. Pollution

Painting

Complete a Rajasthani Miniature Painting on 22×15 inches drawing sheet