

WINTER BREAK HOLIDAY HOMEWORK

Session: 2025-26

Class XI (Humanities)

English

Instructions: Attempt all questions to the best of your ability.
Pay attention to grammar, spelling, and presentation.
All work should be done on separate single A3 size sheets

Have a wonderful and productive holiday!

Total Marks: 20

- 1- **English + Life Skills:** Interview a grandparent or elder about their teenage years especially what kind of medical facilities they had at that time[Birth]. Write a one-page reflection comparing their experiences with yours
- 2- **Letter to the Future:** Write a letter to the Editor of a newspaper dated 2050, expressing concern about an issue you think will dominate the future (climate, AI, social media, etc.)

Grading:

- Creativity and effort: 6
- Grammar and spelling: 4
- Content and organization: 6
- Neatness and presentation: 4

PSYCHOLOGY

INSTRUCTIONS: Do all work neatly in a separate notebook or on A4 sheets. Answers must be written in your own words. Focus on application of concepts. Diagrams and examples may be used wherever suitable.

PART A: ACTIVITY (Do ANY ONE)

Activity 1: Psychology Around Me – Observe one behaviour during your winter break (your own or someone else’s). Write what the behaviour was, which psychological concept it relates to (Learning, Memory, Motivation or Emotion), and explain the behaviour using the concept studied.

Activity 2: Memory Experiment – Memorise a list of 8–10 words using any two methods such as repetition, chunking or making a story. Write which method helped you remember better and why you think it was effective.

Activity 3: Emotion Diary – For one day, note any two emotions you experienced. For each emotion, write the situation, emotion felt, bodily changes and behavioural response.

PART B: APPLICATION-BASED ASSIGNMENT

Answer the following questions in 40–50 words each.

LEARNING

1. Rohan avoids touching a hot kettle after burning his hand once. Identify the type of learning involved and explain how learning occurred.
2. Meera starts completing her assignments on time because her teacher praises her in front of the class. Identify the learning process and the type of reinforcement used.
3. A child learns to say “thank you” by observing elders using polite language. Identify the learning theory and explain the role of observation.

MEMORY

4. Aarav remembers his childhood phone number but forgets what he studied yesterday. Identify the types of memory involved and justify your answer.
5. During an exam, Riya is unable to recall answers despite studying well. Which memory process is affected? Give one psychological reason.

6. Rahul mixes up answers from two similar chapters during the exam. Identify the type of forgetting involved and explain briefly.

MOTIVATION

7. Neha practices dance daily because she enjoys it and not for rewards. Identify the type of motivation and explain.
8. Aman studies harder after failing a test to avoid scolding from his parents. Which motivational factor is influencing his behaviour?
9. Despite repeated failures, a student continues preparing seriously for a competitive exam. Explain this behaviour using motivational concepts.

EMOTION

10. Before giving a speech, a student experiences sweating, fast heartbeat and nervousness. Identify the emotion and mention two components of emotion visible here.
11. A child feels sad after losing a game but becomes happy when friends comfort him. Explain this emotional change.
12. During a horror movie, a person feels fear even though they know the situation is not real. Explain this reaction using emotional concepts.

MATHEMATICS CHAPTER-1: SET THEORY

- Q.1 If $U = \{1,2,3,4,\dots,10\}$ is the universal set for the sets $A = \{2,3,4,5\}$ and $B = \{1,2,3,4,5,6\}$, then verify that $(A \cup B)^c = A^c \cap B^c$.
- Q.2 If $A = \{1, 2, 3, 4, 5\}$, $B = \{1, 3, 5, 8\}$, $C = \{2, 5, 7, 8\}$, verify that $A - (B \cup C) = (A - B) \cap (A - C)$.
- Q.3 Which type of set is the set of odd natural numbers divisible by 2?
- Q.4 Out of 20 members in a family, 11 like to take tea and 14 like coffee. Assume that each one likes at least one of two drinks. how many like, only tea and not coffee?
- Q.5 Decide, among the following sets are subsets of one and another :
 $A = \{x : x \in \mathbb{R} \text{ and } x \text{ satisfy } : x^2 - 4x + 3 = 0\}$
 $B = \{1,3\}$,
 $C = \{1,3,5\}$,
 $D = \{4,5,6\}$.
- Q.6 A market research group conducted a survey of 1000 consumers and reported that 720 consumers like product A and 450 consumers like product B. What is the least number that must have liked both products?
- Q.7 Let A and B be two finite sets such that $n(A - B) = 30$, $n(A \cup B) = 180$, $n(A \cap B) = 60$, find $n(B)$. (2 marks)
- Q.8 Write the set $A = \{x : x \in \mathbb{N} \text{ and } x^2 < 25\}$ in roster form.
- Q.9 In a survey it was found that 21 people liked product A, 26 liked product B and 29 liked C. If 14 people liked products A and B, 12 people liked products C and A, 14 people liked products B and C and 8 liked all the three products. Find how many liked
 (i) product C only
 (ii) product A and C but not product B
 (iii) at least one of three products.
- Q.10 If $A \times B = \{(p,q),(p,r),(m,q),(m,r)\}$, find A and B.
- Q.11 In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, 3 read all three newspapers. Find:
 (i) the number of people who read at least one of the newspapers.
 (ii) the number of people who read exactly one newspaper.
- Q.12 In a committee, 50 people speak French, 20 speak Spanish and 10 speak both Spanish and French. How many speak at least one of these two languages?
- Q.13 In a survey of 600 students in a school, 150 students were found to be taking tea and 225 taking coffee, 100 were taking both tea and coffee. Find how many students were taking neither tea nor coffee?
- Q.14 If $A = \{x : x \text{ is a prime number } \forall x \in \mathbb{N}\}$, then find A^c .
- Q.15 If X and Y are two sets such that $n(X) = 17$, $n(Y) = 23$ and $n(X \cup Y) = 38$, find $n(X \cap Y)$.
- Q.16 From the sets given below, select equal sets :
 $A = \{2,4,8,12\}$, $B = \{1,2,3,4\}$, $C = \{4,8,12,14\}$, $D = \{3,1,4,2\}$, $E = \{-1,1\}$, $F = \{0,a\}$,

Q.17 Draw appropriate Venn diagram for each of the following:

(i) $(A \cup B)'$

(ii) $A' \cap B'$

(iii) $(A \cap B)'$

(iv) $A' \cup B'$

Q.18 Show that $A \cap B = A \cap C$ need not imply $B = C$.

Q.19 Let $U = \{1,2,3,4,5,6,7,8,9,10\}$ and $A = \{1,3,5,7,9\}$. Find A''' .

Q.20 In a town of 840 persons, 450 persons read Hindi, 300 read English and 200 read both. Find the number of persons who read neither.

CHAPTER-2: RELATIONS & FUNCTIONS

Q1. If $A = \{2, 3\}$, $B = \{4, 5\}$, $C = \{5, 6\}$ Find (i) $A \times B$ (ii) $A \times (B \cup C)$ (iii) $A \times (B \cap C)$

Find (i) $A \times (B \cup C) = (A \times B) \cup (A \times C)$

(ii) $A \times (B - C) = (A \times B) - (A \times C)$

Q2. If the ordered pairs $(x, -1)$ and $(5, y)$ belong to the set $\{(a, b) : b = 2a - 3\}$, find the values of x and y .

Q3. If A and B are two sets having 3 elements in common. If $n(A) = 5$, $n(B) = 4$, find $n(A \times B)$ and $n(A \times B) \cap (B \times A)$

Q4. Determine the domain and range of the following relations:-

(i) $R_1 = \left[\left[x, \frac{1}{x} \right] : 0 < x < 6, x \in \mathbb{N} \right]$ (ii) $R_2 = \left[\left[x, x^3 \right] : x \text{ is a prime number less than } 10 \right]$

Q5. Write all possible relation from $A = \{1, 2\}$ to $B = \{0\}$.

Q6. How many relations are possible from a set A of n elements to another set B of n elements ?

Q7. Find the domain for which the functions $f(x) = 3x^2 - 1$ and $g(x) = 3 + x$ are equal.

Q8. Express the following functions as set of ordered pairs and determine their ranges.

(a) $f: A \rightarrow \mathbb{R}$, $f(x) = x^2 + 1$, where $A = \{-1, 0, 2, 4\}$

(b) $g: A \rightarrow \mathbb{N}$, $g(x) = 2x$, where $A = \{x : x \in \mathbb{N}, x \leq 10\}$

Q9. Let a function f be defined by $f(x) = \frac{x}{x^2 + 1}$, $x \in \mathbb{R}$

Find (i) $f\left(\frac{1}{x}\right)$ $x \neq 0$ (ii) $f(2x)$ (iii) $f(x-1)$

Q10. If $f(x) = \frac{x-1}{x+1}$, $x \neq -1$, then show that $f(f(x)) = \frac{-1}{x}$, provided that $x \neq 0$

Q11. Let $f(x) = x^2$ and $g(x) = 2x + 1$ be two real functions find (i) $(f+g)(x)$ (ii) $(f-g)(x)$ (iii) $(fg)(x)$

Q12. If a real function f is defined by $f(x) = \left(\lfloor x \rfloor - x \right) / 2x$, find its range.

Q13. Find the domain of each of the following real valued functions :-

(i) $f(x) = \frac{1}{x+2}$,

(ii) $f(x) = \frac{x-1}{x-3}$,

(iii) $f(x) = \frac{2x-3}{x^2-3x+2}$,

(iv) $f(x) = \frac{x^2+3x+5}{x^2-5x+4}$,

(v) $f(x) = \sqrt{x-2}$,

(vi) $f(x) = \frac{1}{\sqrt{1-x}}$,

(vii) $f(x) = \sqrt{4-x^2}$,

Q14. Find the domain and range of the real function $f(x)$ given by

(i) $f(x) = \frac{x-2}{3-x}$

(ii) $f(x) = \frac{1}{\sqrt{x-5}}$

(iii) $f(x) = \sqrt{16-x^2}$

(iv) $f(x) = \frac{x}{1+x^2}$

(v) $f(x) = \frac{3}{2-x^2}$

(vi) $f(x) = \frac{x^2-9}{x-3}$

Q15. If $R = \{(x, y) : x, y \in I, 4x^2 + 8y^2 = 36\}$, then represent R by arrow diagram.

Q16. Give $A = \{-2, -1, 0, 1, 2\}$ and $B = \{-3, -1, 1, 5\}$. List all elements of $f \{(x, y) : y = 2x^2 - 3, x \in A, Y \in B\}$. Is f a function ?

CHAPTER-3: TRIGONOMETRY

1. Radian measure of $-37^\circ 30'$

(a) $-\frac{3\pi}{5}$ (b) $-\frac{5\pi}{24}$ (c) $-\frac{7\pi}{5}$ (d) $-\frac{3\pi}{7}$

2. Length of an arc of circle of radius 5 cm subtending an angle of 15°

(a) $\frac{-7\pi}{5}$ (b) $\frac{\pi}{5}$ (c) $\frac{5\pi}{12}$ (d) $\frac{5\pi}{12}$

3. If $\tan A + \cot A = 4$ then $\tan^2 A + \cot^2 A =$

(a) 110 (b) 191 (c) 80 (d) 194

4. If $\sin x = \frac{12}{13}$, x lies in II quadrant then, value of $\cos x$ is

(a) $-\frac{13}{5}$ (b) $\frac{13}{5}$ (c) $-\frac{5}{12}$ (d) $\frac{3}{5}$

5. If $\sec x = x + \frac{1}{4x}$ then $\sec x + \tan x =$

(a) x or $\frac{x}{2}$ (b) x or $\frac{1}{2x}$ (c) x or $\frac{1}{x}$ (d) none

6. If $\tan x = \frac{-1}{\sqrt{5}}$ and x lies in IV quadrant then $\cos x =$

(a) $\frac{\sqrt{5}}{\sqrt{6}}$ (b) $\frac{5}{\sqrt{6}}$ (c) $\frac{1}{\sqrt{6}}$ (d) $\frac{1}{2}$

7. If A, B and C are three angles of a triangle then $\frac{\sin A - \sin C}{\cos C - \cos A} =$

(a) $\tan B$ (b) $\tan C$ (c) $\cot C$ (d) $\cot B$

8. $\sin \frac{\pi}{10} \sin \frac{13\pi}{10} =$

(a) $\frac{7}{11}$ (b) $-\frac{1}{4}$ (c) $-\frac{1}{5}$ (d) $-\frac{1}{3}$

9. General solution of $\tan 3x = -1$ is

(a) $\frac{n\pi}{3} - \frac{\pi}{2}$ (b) $\frac{n\pi}{3} + \frac{\pi}{12}$ (c) $\frac{n\pi}{2} + \frac{\pi}{12}$ (d) $\frac{n\pi}{3} - \frac{\pi}{12}$

11. Solve $\cos x + \cos 3x - \cos 2x = 0$

12. Show that $\sin^2 24^\circ - \sin^2 6^\circ = \frac{\sqrt{5}-1}{8}$

13. If $\tan \frac{x}{2} = \frac{3}{4}$, $\pi < x < \frac{3\pi}{2}$, find $\sin \frac{x}{2}$ and $\cos \frac{x}{2}$

14. Show that $\frac{\sin 5A - \sin 3A}{\cos 5A + \cos 3A} = \tan A$.

15. Show that $\cot 4x (\sin 5x + \sin 3x) = \cot x (\sin 5x - \sin 3x)$

16. If $\sin x = n \sin (x + 2\alpha)$ then prove that $\tan (x + \alpha) = \frac{1+n}{1-n} \tan \alpha -$

17. Show that $\frac{\cos 6x + 6\cos 4x + 15\cos 2x + 10}{\cos 5x + 5\cos 3x + 10\cos x} = 2\cos x$

18. Show that $\sin 4x = 4\sin x \cos^3 x - 4\cos x \sin^3 x$

19. Prove that $\tan 6^\circ \tan 42^\circ \tan 66^\circ \tan 78^\circ = 1$

20. If $\tan A = \frac{1 - \cos B}{\sin B}$, find the value of $\tan 2A$

HISTORY

Section A: Multiple Choice Questions (Apply & Analyse)

- In 1968, anthropologist W.E.H. Stanner highlighted the "Great Australian Silence." This concept encourages historians to:
 - Re-examine the ignored history of Australia's indigenous people
 - Study past inventions in Australia
 - Focus only on political developments
 - Investigate ecological changes only
- Which historian critically explored why the history of Aboriginal Australians was often hidden from mainstream narratives?
 - Henry Reynolds
 - W.E.H. Stanner
 - Mark Bloch
 - Jacob Berkhard
- The term **terra nullius**, used by colonial governments, justified claiming land. What was the implication of this idea?
 - Land could be claimed as "belonging to nobody"
 - Land was naturally beautiful
 - Land belonged to islands
 - Land was reserved for settlers only
- Britain recognized the independence of a former colony in the late 18th century. Which event does this refer to?
 - American independence in 1781
 - American independence in 1780
 - Canadian independence in 1870
 - Indian independence in 1857
- Certain Native American tribes were forcibly removed from their lands in the 19th century. Which tribe faced this treatment under President Andrew Jackson?
 - Hopis
 - Cherokees
 - Métis
 - Ottawas
- Modern laws in America recognize indigenous treaty and land rights. Which year marks the passing of such a significant law?
 - 1984
 - 1986
 - 1982
 - 1988
- In early Australia, cheap labour was often exploited. Which group primarily provided this labour?
 - Chinese immigrants
 - African slaves
 - Australian Aborigines
 - Indian labourers

Section B: Short Answer / Competency-Based Questions

- Q11 Between the 17th and 19th centuries, European migration to America increased significantly.
Task: Analyse and explain three major economic, political, or social reasons that motivated Europeans to migrate to America.
- Q12 The discovery of gold led to a sudden rush of settlers in certain regions of America.
Task: Identify where and when the Gold Rush began, and explain how it contributed to the development of railways and industrial growth in the country.
- Q13 Indigenous peoples in Australia and America often faced displacement and loss of rights.
Task: Explain one government measure or law in each country that aimed to recognize or restore indigenous rights, and evaluate its effectiveness.

ECONOMICS (Choose Any One Project)

Project 1

Task: Prepare a PowerPoint presentation on:
“Monopoly vs Competition in Digital Markets”

- Examples: Amazon, Google, etc.

Project 2

Task: Prepare a **questionnaire** (avoid calculative/mathematical questions) to conduct a comparative study on: Digital payments vs Cashless economy

POLITICAL SCIENCE

The research task is designed to encourage learners to carry out an **independent, self-directed study** on a selected topic and demonstrate analytical, presentation, and writing skills.

Expectations of the Research Task:

- The research task should be **handwritten (5 -7 A4 sheets)** and completed independently by the learner.
- Learners are expected to follow a **structured approach** while conducting the study.

Expected Checklist for the Research Task:

1. **Introduction of the topic/title** – Clearly define the subject or issue under study.
2. **Analysis** – Identify the causes, consequences, main events, origin, and possible remedies related to the topic.
3. **Evaluation** – Discuss the advantages and disadvantages of the situation, issue, or policy under consideration.
4. **Selection of Respondents / Sources** – Identify whom or what sources will be consulted for information.
5. **Validity and Reliability** – Ensure the data or case studies used are credible and trustworthy.
6. **Presentation and Writing** – The research task should be succinct, coherent, and well-organized in the file.

Mode of Presentation:

- At the end of the stipulated term, each learner will **present their research task** to the teacher.
- The teacher may ask **questions based on the learner’s research work** to assess understanding, analysis, and critical thinking.

Suggestive List of Research Task Topics – (Choose any one topic)

- i) Difference between Indian Secularism and Western Secularism
- ii) Working of existing arrangements between State and Centre & Sarkaria Commission
- iii) Significance of United Nations & International peace
- iv) Salient attributes of 73rd Amendment & 74th Amendment Act in Local Government
- v) Framework of Indian Constitution & Role of Preamble
- vi) Indian Constitution as a Bag of Borrowing
- vii) Law-making process of Indian Constitution
- viii) Critical analysis of alliance governments – NDA & UPA

GEOGRAPHY

Please complete the following chapters in your Practical File:

1. Topographical Maps:

- Study the chapter and include:
 - Definition and types of topographical maps
 - Key features and symbols used
 - Interpretation of a sample map (focus on contours, scales, grid references)
 - Exercises: Identify and explain 3-4 features (e.g., relief, drainage, settlements)
- Attach a sample topographical map (1:50,000 scale) with annotations.

2. Introduction to Remote Sensing:

- Cover the basics:
 - What is remote sensing? Types (aerial, satellite)
 - Platforms and sensors used
 - Applications in geography (land use mapping, disaster management)
- Include:
 - A labelled diagram of the remote sensing process
 - One case study on the use of remote sensing in India (e.g., flood mapping, forest monitoring)
 - Exercises: List 3 advantages and limitations of remote sensing.
- **Submission:**
 - Neatly handwritten or typed.
 - Include diagrams, maps, and references.

SOCIOLOGY

MCQ

- 1 _____ thinkers see the state as representing the dominant sections of the society?
 - a. Functionalist
 - b. Conflict
 - c. Socialist
 - d. None of the above
- 2 _____ is that form of power, which is accepted as legitimate.
 - a. Assembly line
 - b. Authority
 - c. Cross-cutting
 - d. Command
- 3 Sociology is the study of society while _____ is the study of mind.
 - a. Psychology
 - b. History
 - c. Political science
 - d. Geology
- 4 **Assertion:** Every change which occurs in society is not social change.
Reason: Only that change is known as social change which does occur in social relations.
 - (a) Both A and R are true and R is the correct explanation of A
 - (b) Both A and R are true but R is NOT the correct explanation of A
 - (c) A is true but R is False
 - (d) A is false and R is True
- 5 The industrial revolution gave rise to
 - a. Communism
 - b. Capitalism
 - c. Socialism
 - d. Feminism

According to Karl Marx, _____ is an awareness that is key to sparking a revolution that would "create a dictatorship of the proletariat! Transforming it from a wage-earning, property-less mass into the ruling class".

- a. Class Struggle
- b. Alienation
- c. Ideology
- d. Class Consciousness

7 Assertion: The village as a site of research offered many disadvantages to Indian sociology.
Reason: It provided an opportunity to illustrate the importance of ethnographic research methods

- a. Both A and R is true and R is the correct explanation of A.
- b. Both A and R is true but R is not the correct explanation of A.
- c. A is true but R is false.
- d. A is false but R is true

8 _____ rights include civil, political and social rights.

- a. Sovereignty
- b. Universal
- c. Citizenship
- d. None of them

9 Who gave the concept of Sociological Imagination?

- a. Max Muller
- b. C. Wright Mills
- c. Emile Durkheim
- d. Atin Singh

10 Caste is an _____ group.

- a. Exogamous
- b. Ergonomic
- c. Endogamous
- d. None of these

11 Assertion: Man is the product of the cultural milieu in which he is born.

Reason: Culture determines every aspect of human personality.

- a. Both A and R are true and R is the correct explanation of A.
- b. Both A and R are true but R is not a correct explanation of A.
- c. A is true but R is false
- d. A is false but R is true.

12 What type of socialisation is done in schools and colleges?

- A. Primary socialisation
- B. Secondary socialisation
- C. Both A and B are correct
- D. Both A and B are not correct

13 The Gap between material and non-material culture is called as _____

- A. Cultural traits
- B. Cultural lag
- C. Cultural fusion
- D. Cultural dimension

14 Which among the following does not match with the spirit of Capitalism?

- A. Private property
- B. Profit orientation
- C. Free Market
- D. Egalitarian Society

15 33. Darwin's ideas about _____ were a dominant influence on early sociological thought. Which among the following words is best suited to complete the statement?

- A. Aesthetic beauty
- B. Social imagination
- C. Experimental learning
- D. Organic evolution

16 'It' implies dividing the complex work into smaller parts and distributing it among laborers on the basis of their skill specialization, age, gender etc. What is meant by 'It'?

- A. Consequences of labour
- B. Division of labour
- C. Part time labour
- D. Consolidation of labour
