

CLASS - VIII
SUMMER HOLIDAY HOMEWORK
SUBJECT – AI

Multiple Choice Questions (MCQs)

1. What is the first stage of AI project cycle?

- A) Modelling
- B) Problem Scoping
- C) Deployment
- D) Evaluation

2. Which stage involves collecting data?

- A) Data Exploration
- B) Data Acquisition
- C) Evaluation
- D) Modelling

3. AI ethics ensures AI systems are:

- A) Expensive
- B) Fair and safe
- C) Slow
- D) Complicated

4. Which stage checks the accuracy of the model?

- A) Evaluation
- B) Deployment
- C) Data Collection
- D) Problem Scoping

5. Which stage is used to test the AI model?

- A) Problem Scoping
- B) Data Acquisition
- C) Evaluation
- D) Deployment

6. AI ethics is related to:

- A) Coding speed
- B) Moral use of AI
- C) Hardware design
- D) Internet speed

7. Which stage helps in understanding the problem clearly?

- A) Deployment
- B) Problem Scoping
- C) Modelling
- D) Evaluation

8. The AI project cycle is a:

- a) Linear process for developing AI projects.
- b) Cyclical process guiding AI development from start to finish.
- c) Random approach to building AI models.
- d) One-time evaluation

Short Answer Questions

1. What is an AI project cycle?

2. Why is data important in AI?

3. What is AI ethics?

4. What is Problem Scoping?

5. What are the different stages of the AI project cycle? What is the importance of each stage?

Mark True or False

- 1. AI project cycle starts with deployment.
- 2. Data is important for AI systems.
- 3. Evaluation checks model performance.
- 4. Ethics means only computer programming rules.
- 5. AI ethics focuses on safety and fairness.

Fill in the Blanks

- 1. The first stage of AI project cycle is _____.
- 2. _____ is used to collect raw information.
- 3. The process of testing a model is called _____.
- 4. _____ ensures AI is fair and safe.
- 5. AI systems are trained using _____
- 6. AI stands for _____ Intelligence.

Assertion–Reason (5)

Select any one option for below questions

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, but R is true

1. Assertion (A): Data is important for AI systems.
Reason (R): AI learns patterns from data.
2. Assertion (A): Evaluation is done after modelling.
Reason (R): It checks accuracy of the AI model.
3. Assertion (A): Problem scoping is the last stage of AI project cycle.
Reason (R): It helps in understanding the problem.
4. Assertion (A): AI ethics is related to moral use of AI.
Reason (R): It ensures AI does not harm society.
5. Assertion (A): Data acquisition means analyzing data.
Reason (R): It involves collecting raw data.

Unseen Passage

Artificial Intelligence is widely used in many fields such as healthcare, education, and transportation. To build an AI system, developers follow a structured process called the AI project cycle. This cycle includes problem understanding, data collection, data analysis, model building, testing, and deployment. Each step is important because it ensures that the final AI system is accurate, useful, and safe. Along with technical steps, AI ethics plays an important role in making sure that AI systems do not harm people and are used responsibly.

Questions:

- 1. What is AI project cycle?**
- 2. How many main stages are mentioned in the passage?**
- 3. Why is AI ethics important?**
- 4. Name one field where AI is used.**

Holidays homework

Class 8

Subject English.

Q-1 Listening and speaking. - Watch the movie mission Mangal and learn some dialogues to speak up in the class room after Vacation.

Q-2 Reading -Read next three lessons given in your book

Q-3 writing -Write some new words from Unit second. Write some 20 synonyms. 20 opposite words and 20 one words substitution and 20 idioms and 20 verb forms. For example one who loves his country-Patriot.

Write a notice which is given in your book. and write an essay on Independence Day.

Q-4 Make a working project On anyone topic from your grammar portion

पीरुम श्री केन्द्रीय विद्यालय टीकमगढ़
श्रीष्मकालीन गृहकार्य सत्र-2026-27

कक्षा-8

विषय- हिन्दी (मल्हार)

- प्रश्न-1- डॉ. ए.पी.जे. अब्दुल कलाम का प्रेरक उद्बोधन 'सपनों की उड़ान' को अच्छे से पढ़कर 'सपनों' को पूरा करने की योजना एवं प्रक्रिया के विषयों को लिखिए।
- प्रश्न-2- पाठ्य पुस्तक 'मल्हार' से 'मित्रलाभ' कहानी को पढ़कर मित्र होने के 10 लाभ लिखिए।
- प्रश्न-3- देशप्रेम से सम्बन्धित 15 लाइनों की कविता की रचना कीजिए।
- प्रश्न-4- राष्ट्रगान की मुद्रा में खड़े हुए विद्यार्थियों का तिरंगे के सामने का रंगीन पोस्टर बनाइए।
- प्रश्न-5- 20 मार्च 'गौरैया दिवस' के उपलक्ष्य में उनके रहने के लिए सुन्दर एवं आकर्षक आवास (घोंसला) का निर्माण करके लाइए।
- प्रश्न-6- 200 शब्दों में 'हमारा विद्यालय' पर निबन्ध लिखिए।
- प्रश्न-7- 10 पंक्तियों की सुलेख (सुन्दर लेख) लिखिए।

विषय अध्यापक
किशन लाल


PRACTICE PAPER 05 (2025-26)
CHAPTER 01 A SQUARE AND A CUBE (Ganita Prakashan)

SUBJECT: MATHEMATICS
CLASS : VIII

MAX. MARKS : 40
DURATION : $1\frac{1}{2}$ hr

General Instructions:

- (i). All questions are compulsory.
- (ii). This question paper contains 20 questions divided into five Sections A, B, C, D and E.
- (iii). Section A comprises of 10 MCQs of 1 mark each. Section B comprises of 4 questions of 2 marks each. Section C comprises of 3 questions of 3 marks each. Section D comprises of 1 question of 5 marks each and Section E comprises of 2 Case Study Based Questions of 4 marks each.
- (iv). There is no overall choice.
- (v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 10 carry 1 mark each.

1. Which of the following numbers will definitely not be a perfect square?
(a) 1936 (b) 2500 (c) 1729 (d) 1600
2. The number of lockers that remain open in the “locker puzzle” with 225 lockers is:
(a) 15 (b) 225 (c) 30 (d) 16
3. Which of the following square numbers will end with the digit 1?
(a) 15^2 (b) 18^2 (c) 21^2 (d) 32^2
4. The smallest number by which 882 must be multiplied to make it a perfect square is:
(a) 2 (b) 3 (c) 7 (d) 11
5. Which of the following is not a perfect cube?
(a) 2197 (b) 2744 (c) 4913 (d) 2500
6. The value of 126^2 , if $125^2 = 15625$, is:
(a) $15625 + 126$ (b) $15625 + 251$ (c) $15625 + 253$ (d) $15625 + 252$
7. The cube root of 3375 is:
(a) 12 (b) 15 (c) 18 (d) 25
8. Which of the following numbers is not a perfect cube?
(a) 1331 (b) 512 (c) 1000 (d) 2000

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (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 but R is true.
9. **Assertion (A):** A square number always has an odd number of factors.
Reason (R): Square numbers have one unpaired factor which is repeated.
10. **Assertion (A):** No cube can end with exactly two zeros.

Reason (R): Cube numbers always contain factors grouped in triplets.

SECTION – B

Questions 11 to 14 carry 2 marks each.

11. Find the smallest square number which is exactly divisible by 12, 15, and 20.
12. Find the square root of 2401 by prime factorisation method.
13. Find the cube root of 2744, by the prime factorisation method.
14. Find the smallest number by which 200 must be multiplied so that the product becomes a perfect cube.

SECTION – C

Questions 15 to 17 carry 3 marks each.

15. Find the smallest number by which 405 must be divided to obtain a perfect square. Also, find the square root of the quotient.
16. Find the smallest number by which 1352 must be multiplied so that the product has a cube root. Also, find the cube root of the product.
17. Find the smallest number by which 1536 must be divided so that the quotient has a cube root. Also, find the cube root of the quotient.

SECTION – D

Questions 18 carry 5 marks each.

18. A school has 1475 students. What is the minimum number of students that need to be added so that the total number of students can be arranged in a perfect square grid?

SECTION – E (Case Study Based Question)

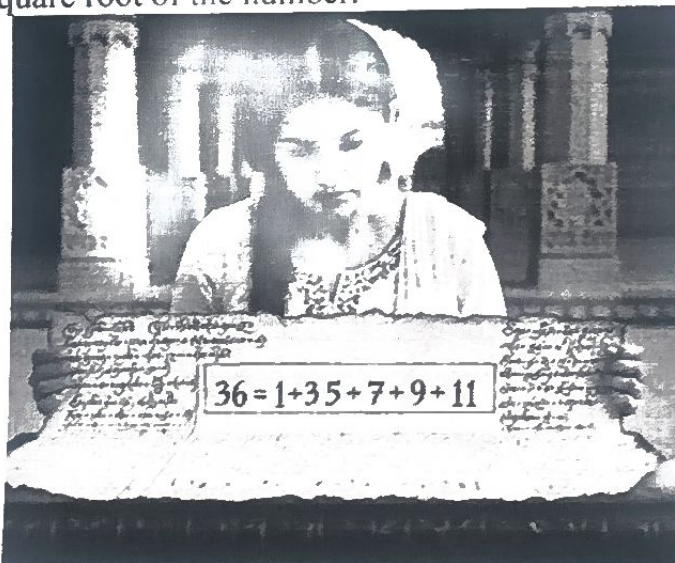
Question 19 to 20 carry 4 mark

19. Case Study – 1 (Squares and Odd Numbers)

Riya was reading about ancient Indian mathematicians. She discovered that square numbers can be expressed as the sum of consecutive odd numbers. She tried with 36:

$$36 = 1 + 3 + 5 + 7 + 9 + 11.$$

She wondered if she could find other squares this way. She also noticed that the number of odd numbers added equals the square root of the number.



Answer the following:

- (a) Express 49 as the sum of consecutive odd numbers.

- (b) How many odd numbers are required to express 121 as a sum?
(c) Find whether 50 can be expressed as the sum of consecutive odd numbers.
(d) If 2025 is a perfect square, how many odd numbers will be required to express it?

20. Case Study – 2 (Cubes and Taxicab Numbers)

During a math club discussion, Arjun told the famous story of Hardy and Ramanujan. Hardy thought 1729 was dull, but Ramanujan replied it was special since $1729 = 1^3 + 12^3 = 9^3 + 10^3$. This made Arjun curious about cubes and their properties. He started exploring other such numbers called “taxicab numbers.”



Answer the following:

- (a) Find the units digit of the cube of 25.
(b) What is the smallest number by which 250 must be multiplied to make it a perfect cube?
(c) What is the cube root of 2744?
(d) Can a perfect cube end with the digits 00? Justify your answer.
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PRACTICE PAPER 08 (2025-26)
CHAPTER 02 POWER PLAY (Ganita Prakashan)

SUBJECT: MATHEMATICS
CLASS : VIII

MAX. MARKS : 40
DURATION : $1\frac{1}{2}$ hr

General Instructions:

- (i). All questions are compulsory.
- (ii). This question paper contains 20 questions divided into five Sections A, B, C, D and E.
- (iii). **Section A** comprises of 10 MCQs of 1 mark each. **Section B** comprises of 4 questions of 2 marks each. **Section C** comprises of 3 questions of 3 marks each. **Section D** comprises of 1 question of 5 marks each and **Section E** comprises of 2 Case Study Based Questions of 4 marks each.
- (iv). There is no overall choice.
- (v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 10 carry 1 mark each.

1. What is the value of $3^0 + 4^0 + 5^0$?
(a) 3 (b) 1 (c) 12 (d) 0
2. The planet Mars is approximately 22,80,00,000 km away from the Sun. What is this distance in standard form?
(a) 22.8×10^7 km (b) 2.28×10^8 km (c) 2.28×10^7 km (d) 2.28×10^{-8} km
3. The value of $(-2)^3 \times (-2)^{-5}$ is:
(a) 2^2 (b) $1/4$ (c) -4 (d) 4
4. If $3^{2x} = 81$, what is the value of x?
(a) 2 (b) 3 (c) 4 (d) 1
5. Simplify the expression: $(p^5 \times q^6) / (p^2 \times q^3)$
(a) p^3q^3 (b) $(pq)^7$ (c) p^7q^9 (d) p^3/q^3
6. A virus's DNA is 0.0000000021 meters long. In scientific notation, this length is:
(a) 2.1×10^{-9} m (b) 2.1×10^{-8} m (c) 2.1×10^9 m (d) 2.1×10^8 m
7. A magic potion doubles its quantity every minute. If you start with a single drop, how many minutes will it take for the quantity to be 2^{15} drops?
(a) 15 minutes (b) 30 minutes (c) 10 minutes (d) 2 minutes
8. Which of the following is equivalent to 5^{100} ?
(a) $(5^{10})^9$ (b) $(5^{20})^5$ (c) $(5^{10})^{100}$ (d) $(5^5)^{10}$

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (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 but R is true.

9. **Assertion (A):** The value of $(-1)^{500}$ is 1.

Reason (R): When a negative number is raised to an even power, the result is positive.

10. Assertion (A): The value of 2^{-3} is $1/8$.
Reason (R): For any non-zero integer 'n', $n^{-a} = 1/n^a$.

SECTION – B

Questions 11 to 14 carry 2 marks each.

11. Find the value of (i) $(3^2 \times 3^4) \div 3^6$ (ii) $(5^8 \div 5^3) \times 5^2$

12. Simplify: $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-2}$

13. If $3^x = 9^2 \times 27$, find the value of x.

14. A country's GDP is Rs. 3.5×10^{12} . The population is 7×10^8 . What is the GDP per person? Express your answer in standard form.

SECTION – C

Questions 15 to 17 carry 3 marks each.

15. Simplify: $\frac{6^3 \times 12^2 \times 9}{18^2 \times 24}$

16. Find the value of x for which $\left(\frac{5}{7}\right)^{2x-1} \div \left(\frac{5}{7}\right)^3 = \left(\frac{5}{7}\right)^{-4}$

17. By what number should $\left(\frac{-3}{4}\right)^{-2}$ be multiplied so that the product is 3^{-2} ?

SECTION – D

Questions 18 carry 5 marks each.

18. Find the value of x and y such that $5^x = 125$ and $7^y = 1/343$. Hence, evaluate the expression $(x - y)^x \cdot y^x$.

SECTION – E (Case Study Based Question)

Question 19 to 20 carry 4 mark

19. Case Study-1: The King's Gold Coins:

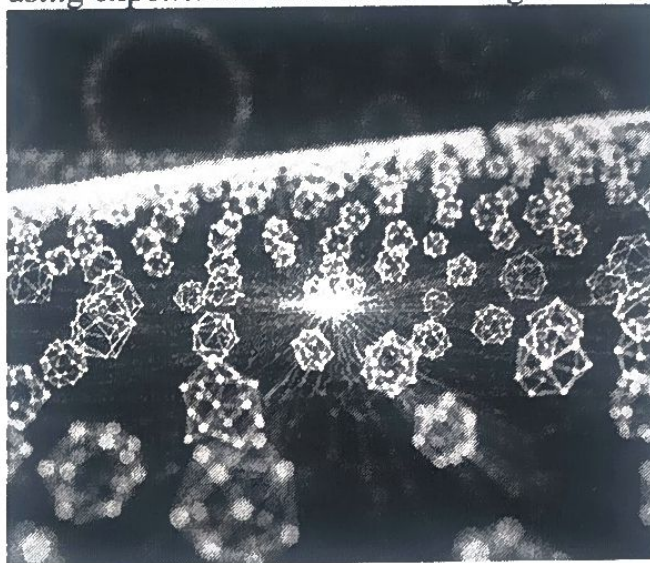
A king distributes his gold coins to his three ministers. Each minister receives three large chests. Each chest contains three medium-sized boxes. Each medium-sized box contains three small pouches, and each small pouch contains three gold coins. The king asks his ministers to calculate the total number of gold coins, but they must use exponential notation to present their answer.



- (i) Express the number of gold coins each minister receives in exponential form. (1)
- (ii) How many gold coins were distributed in total by the king? Express your answer in exponential form. (1)
- (iii) If the number of ministers was four instead of three, and the number of chests, boxes, pouches, and coins per pouch remained the same, how many total coins would have been distributed? Express your answer in exponential form. (1)
- (iv) The king takes back a portion of the total coins equal to 3^4 . What is the number of coins remaining with the ministers? Express your answer in exponential form. (1)

20. Case Study-2 The Virus Spread:

A new virus strain is discovered that infects people at an alarming rate. Initially, there is only one person infected on Day 0. The number of infected people doubles every day. The government wants to track the spread of this virus using exponential notation to manage resources efficiently.



- (i) Write the number of infected people at the end of Day 5 in exponential form. (1)
- (ii) On which day will the number of infected people reach 256? (1)
- (iii) If the number of infected people tripled every day instead of doubling, how many people would be infected at the end of Day 3? Express your answer in exponential form. (1)
- (iv) The number of infected people after 'x' days can be represented by 2^x . What is the ratio of the number of infected people on Day 8 to Day 4? Express in exponential form. (1)

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पी० एम० श्री केन्द्रीय विद्यालय, टीकुमगढ़

कक्षा - 8 , विषय - संस्कृतम्

ग्रीष्मकालीन अवकाश गृहकार्यम्

- 1) 'संगच्छध्वं सेवदध्वम्' इत्यस्य पाठस्य त्रीन् श्लोकान् कण्ठस्थं कृत्वा लिखत ।
- 2) सुभाषितार्थं 2-2 श्लोकौ रचनात्मकरीत्या लिखित्वा स्मरन्तु ।
- 3) 'नदी, गुरु, भानु' इत्यस्य शब्दरूपं लिखित्वा स्मरणं कुरुत ।
- 4) संस्कृतस्य प्रतिज्ञा प्रार्थना च लिखित्वा स्मरणं कुरुत ।
- 5) ल्यप् प्रत्ययस्य 10-10 उदाहरणानि लिखन्तु ।

— इति —

Science Summer Assignment

Class - 8th

Q1. Choose any 2 diseases and study their :

- Causes
- Symptoms
- Prevention
- Treatment

Make a table and paste images.

Q2. Make a poster on the chart paper.

Topic : Save water save life

Q3. Visit a nearby place (park, market, etc)

Q4. Observe and write 5 examples of science in action.

Q5. Answer the following questions :

(i) What is science?

- (ii) What is scientific investigation?
- (iii) Difference between communicable and non-communicable diseases.
- (iv) Write 5 communicable and 5 non-communicable diseases with sign and symptoms and preventive measures.

SST Summer Assignments

Class VIII

1. Identify human actions in your surroundings that result in Nature losing her ability to restore and regenerate. What types of interventions can be undertaken to restore Nature's cycle?
2. What are the non-renewable resources that you use daily, directly or indirectly? What are the possible renewable substitutes? What are some of the steps we can take to transition to renewables?
3. Select any two natural resources. Gather information about their availability across different parts of India. Mark them on a map. What do you observe about their distribution? What are the types of economic activities connected with them?
4. How did the Ahoms use the rivers, hills and forests of Assam to their advantage? Can you think of ways in which geography helped them build defences and fight wars ?
5. What values did the Sikh Gurus and the Khalsa embody? How are they relevant in today's world?