

Do not start attempting the test paper until you are asked to do so.

ENROLLMENT NUMBER:

STUDENT NAME:

Class **5**

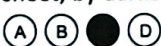
Maximum Marks : 100
Duration : 40 Minutes
Total Questions : 35

Test Paper Type

BB

4th STEM INNOVATION OLYMPIAD 2025-2026

Instructions for the Candidates

1. For filling up information about yourself on the OMR sheet, you will be given additional ten minutes before the start of the examination.
2. Write your 12-digit STEM Enrollment Number and your name on top of the Question Paper in the given space.
3. Do not forget to sign the OMR sheet. Also, write your Roll No. on the Question Paper Booklet.
4. The Question Paper Booklet comprises 35 questions, divided into three sections.
5. Section-A: Science (10 questions), Section-B: Technology & Engineering (15 questions) and Section-C: Mathematics (10 questions).
6. Each question of Section-A carries 2.75 marks, Section-B carries 3 marks, and Section-C carries 2.75 marks.
7. All the questions are compulsory, and there is no negative marking.
8. Use of a calculator or any other devices in the examination is strictly prohibited.
9. Choose only ONE OPTION as an answer.
10. BLUE/BLACK ball pen is preferred to darken the circle; however, in case of non-availability, an HB pencil can be used. Mark your choice of answer in the OMR sheet, by darkening a circle as shown below.

11. Rough work should be done on the blank sheet/space provided in the Question Paper Booklet.

Section-A (Science)

1. A skeleton makes up the framework of the human body. Correctly, identify the Bone of the Leg (Lower Limb) and Bone of the Arm (Upper Limb) respectively.

<i>Bone of the Leg (Lower Limb)</i>	<i>Bone of the Arm (Upper Limb)</i>
-----------------------------------------	-----------------------------------------

- | | |
|------------|---------|
| A. Humerus | Radius |
| B. Radius | Humerus |
| C. Tibia | Humerus |
| D. Tibia | Femur |
2. Which of the following is correct about a constellation?
- A. It is a group of planets that move together in space.
 - B. It is a group of stars forming a recognisable pattern in the sky.
 - C. It is a single bright star that changes colour every night.
 - D. It is a cloud of dust and gas found only on Earth.

3. Read the statements carefully and answer the following question.

Statement I: *An apple hanging from a tree has potential energy because of its height above the ground.*

Statement II: *A boy riding a bicycle on a flat road has only potential energy, not kinetic energy.*

Statement III: *A stretched bow before releasing an arrow stores elastic potential energy.*

Statement IV: *Kinetic energy increases when an object's speed increases.*

Which of the above statements are correct?

- A. Only Statements I, III, and IV are correct
 - B. Statements I and II are correct
 - C. Only Statements II and III are correct
 - D. All four statements are correct
4. Read the two statements carefully and choose the correct option.
- Statement I: *The Sun is luminous because it produces its own light.*
- Statement II: *Planets are luminous objects because they reflect the Sun's light.*
- A. Only Statement I is correct
 - B. Only Statement II is correct
 - C. Both statements are correct
 - D. Both statements are incorrect
5. Read the statements carefully and answer the following question.

Statement 1: *Jupiter is the largest planet in the Solar System.*

Statement 2: *Mercury is the smallest planet in the Solar System.*

Statement 3: *Among the planets of the solar system Earth is the closest to the sun.*

Statement 4: *Venus is the second-largest planet in the Solar System.*

Which of the above statements are correct?

- A. Statements 1, 2, and 3 only
- B. Statements 1 and 2 only
- C. Statements 2, 3, and 4 only
- D. All statements are correct

Space for Rough Work

6. Fill in the blanks.

A is an example of _____ and B is an example of _____.



Choose the correct option

- A. first class lever, third class lever
- B. second class lever, second class lever
- C. third class lever, second class lever
- D. first class lever, second class lever

7. Read the statements about some materials and how they interact with light.

Statement 1: A clean glass water bottle allows light to pass through completely, allowing objects to be seen clearly through it.

Statement 2: A frosted bathroom glass allows some light to pass, but objects behind it look blurred.

Statement 3: A metal cupboard does not allow any light to pass through.

What types of materials are described in the above statements?

- A. 1-Transparent, 2-Translucent, 3-Opaque
- B. 1-Translucent, 2-Transparent, 3-Opaque
- C. 1-Opaque, 2-Transparent, 3-Translucent
- D. 1-Transparent, 2-Opaque, 3-Translucent

8. Read the statements about earthquake and answer the following question.

Statement 1: An earthquake is a violent and abrupt shaking of the ground. It occurs due to sudden movements of rocks inside the Earth's crust.

Statement 2: Earthquakes can cause damage to buildings and roads.

Which of the above statements is/are correct?

- A. Statement 1 only
- B. Statement 2 only
- C. Both Statement 1 and Statement 2
- D. Neither Statement 1 nor Statement 2

9. Read the following statements carefully and answer the question:

- 1. *The brain controls our thoughts, memory, and body movements.*
- 2. *The spinal cord is protected by the backbone (vertebral column).*
- 3. *A network of nerves runs throughout our body.*
- 4. *A network of nerves runs only in the arms and legs in our body.*

Which of the above statements are correct?

- A. Only statements 1, 2, and 3 are correct
- B. Only statements 1, 2, and 4 are correct
- C. Only statements 2 and 4 are correct
- D. Only statements 1 and 2 are correct

Space for Rough Work

10. Read the case study carefully and answer the following question.

Riya and Kabir were at the park. Riya pulled a small trolley filled with toys, and it rolled and moved easily. Kabir tried to pull a large tree trunk lying on the ground, but it did not move even a little, despite of his effort.

Based on the above situation, in which case was work actually done?

- A. Work was done when Riya pulled the trolley and it moved.
- B. Work was done when Kabir tried to pull the tree trunk, but it didn't move.
- C. Both Riya and Kabir did work.
- D. Work was not done in any case.

Section-B (Technology and Engineering)

11. What happens when the computer is turned off without shutting it down properly?
- A. Some unsaved work can be lost and important system files may get damaged.
 - B. The screen may simply look brighter than it was before.
 - C. The computer might start working faster the next time it is used.
 - D. The battery could last longer because less power is being used.

12. What does the term 'booting' refer to in computing?
- A. Turning off the computer
 - B. Sending an email
 - C. Starting the operating system
 - D. Plugging in headphones

13. Which MS Office program is used to create documents like letters and reports?
- | | |
|-------------|-------------------------|
| A. MS Paint | B. MS Excel |
| C. MS Word | D. Windows Media Player |

14. What is the main purpose of an email attachment?
- A. To change fonts in the email
 - B. To include additional files
 - C. To reply to everyone
 - D. To hide the message

15. In which AI domain do machines learn from data to make decisions or predictions?
- A. Natural Language Processing
 - B. Machine Learning
 - C. Robotics
 - D. Computer Vision

16. Which AI domain focuses on enabling computers to generate human-like text?
- A. Natural Language Processing
 - B. Computer Vision
 - C. Robotics
 - D. Machine Learning

Space for Rough Work

17. What is a 'compiler' used for in programming?
- To run a program by reading each line one after another.
 - To change high-level programming code into machine code.
 - To make changes and write content inside text documents.
 - To find and solve different types of problems in hardware.

18. What does 'IDE' stand for in programming?
- Internet Development Environment
 - Integrated Development Environment
 - Internal Data Exchange
 - Interactive Design Editor

19. Which of the following is NOT a web browser?
- | | |
|-----------|------------|
| A. Chrome | B. Firefox |
| C. Safari | D. Linux |

20. Which device is used to connect multiple networks together?
- | | |
|-----------|-----------|
| A. Switch | B. Router |
| C. Modem | D. Hub |

21. If the following letters are arranged in alphabetical order, which letter will be exactly midway between E and N?
- F, K, A, M, T, P, C, R, H, B, L, Q, E, N
- | | |
|------|------|
| A. L | B. M |
| C. H | D. K |

22. Identify the one that does not belong to the group.
- LQV - 51
 - GKT - 36
 - DOW - 42
 - EPR - 39

23. In a row of students, Priya is 10th from the left end and Meera is 18th from the right end. If there are 6 students standing between Priya and Meera. What is Priya's position from the right end?
- | | |
|---------|---------|
| A. 33rd | B. 14th |
| C. 25th | D. 36th |

24. In a certain code language, INSECT is written as KPUGEV. How will the word NATURE be written in that code language?
- PDUWTG
 - PCVWTG
 - PCVXUG
 - PCXYTG

25. Find the mirror image of the given figure.



- q Δ C 2 d
- q Δ C S h
- d C Δ S q
- q C Z 2 d

Space for Rough Work

Section-C (Mathematics)

26. Sarita has 190 marbles. She gave 35 marbles to one friend and received 52 marbles from another friend. She then decided to distribute all her marbles equally among 9 friends. How many marbles did each friend get?

- A. 18 B. 36
C. 23 D. 26

27. What number should be added to the H.C.F. of 144 and 108 to obtain the L.C.M. of 144 and 108?

- A. 288 B. 324
C. 252 D. 396

28. Match Column (A) with Column (B) and choose the correct option:

Column (A)		Column (B)	
1.	$(6 + 6 + 6 + 6)$	a.	$144 \div 12$
2.	$(6 \times 6 \times 6)$	b.	$40 - 3$
3.	$(6 \times 6 + 6 \div 6)$	c.	54×4
4.	$(6 - 2) + (6 - 2) + (6 - 2)$	d.	$13 + 11$

- A. 1 → d, 2 → c, 3 → b, 4 → a
B. 1 → b, 2 → c, 3 → a, 4 → d
C. 1 → d, 2 → b, 3 → c, 4 → a
D. 1 → a, 2 → c, 3 → b, 4 → d

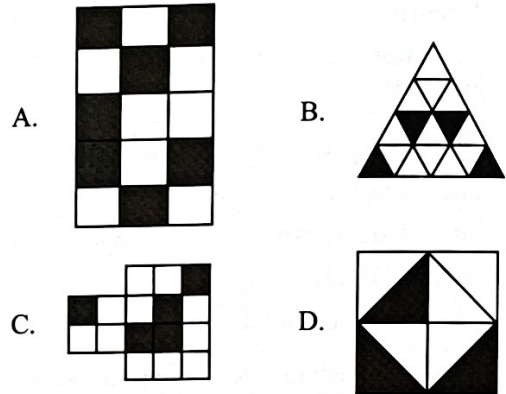
29. Read the following statements carefully and answer the question:

- i. P is a prime number which is the predecessor of a prime number below 10.
- ii. Q is a composite number which is the successor of a composite number below 10.
- iii. R is a number between 0 and 10 that is neither prime nor composite.

What is the sum of P, Q and R?

- A. 12 B. 19
C. 21 D. 23

30. Which of the following fractions, represented by the shaded parts in the figures below, is the smallest?



31. A pizza is cut into 10 equal slices. Ravi eats 7 slices and leaves the rest for his friend. The ratio of pizza eaten by Ravi to pizza left for his friend is:

- A. 7 : 3 B. 3 : 7
C. 7 : 10 D. 3 : 10

32. A box contains 50 chocolates. 10 chocolates are eaten. What percentage of chocolates is eaten?

- A. 10% B. 20%
C. 25% D. 15%

33. A rectangle has a length of 12 cm and a breadth of 8 cm. A square is formed with its side equal to the breadth of the rectangle. What is the difference between the perimeters of the rectangle and the square?

- A. 14 cm B. 12 cm
C. 10 cm D. 8 cm

Space for Rough Work

34. Which of the following options is correct for the statements given below?

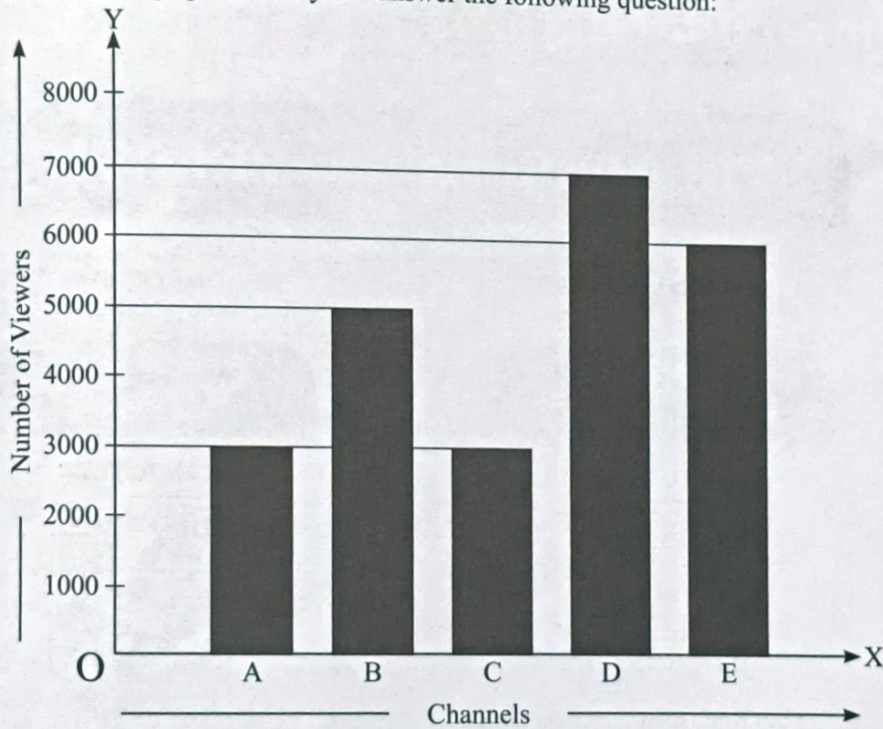
Statement 1: A square is a quadrilateral in which all sides are equal and all angles are 90° .

Statement 2: A cube is a box-shaped solid object with six faces, each of which is a square.

- A. Statement 1 is true and Statement 2 is false
- B. Statement 2 is true and Statement 1 is false
- C. Both statements are true
- D. Both statements are false

35. The bar graph below shows the number of viewers of five TV channels.

Read the bar graph carefully and answer the following question:



What is the difference between the total number of viewers of TV channels B, C, and E and the total number of viewers of TV channels A and D?

- A. 3000
- B. 4000
- C. 2000
- D. 5000

Space for Rough Work

Important Actions

OMR

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