SAMPLE PAPER

CLASS : 5

MATRIX OLYMPIAD
The Most Innovative Talent Recognition Exam

Total Questions : 60   Duration : 2 Hrs.

Paper Pattern			
Section	(A) Maths	(B) Science	(E) Logical Reasoning & IQ
Number of Questions	30	20	10

Marking Scheme: +4 For Correct Answer (There is no negative for wrong answer)

Syllabus

Section A – • Lines, Rays and Angles • Arithmetic Operations • Factors and Multiples • Areas and Perimeters • Volume
Section B – • Animal and our plants • Power house • You are what you eat • Survival of the fittest • Crux of the matter
Section C – • Series : Number, Alphabet and Letter repeating series • Direction sense • Mirror & Water Image • Ranking and Ordering • Mathematical Operation • Paper Folding and Cutting

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Instructions :

- This Booklet is your **Question Paper**. DO NOT break seal of Booklet until the invigilator instructs to do so.
- The Answer Sheet is provided to you separately which is a machine readable **Optical Response Sheet (ORS)**. You have to mark your answer in the ORS by darkening bubble, as per your answer choice , by using **Black /Blue** ball point pen only.
- If you are found involved in cheating or disturbing others then your ORS will be cancelled.
- Do not put any stain on ORS and hand it over back properly to the invigilator.
- You can take along the question paper after test over.

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MATRIX

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PART I : MATHEMATICS

This section contains 30 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

1. Simplify : $9 + 12 \div 3 - 2 = ?$
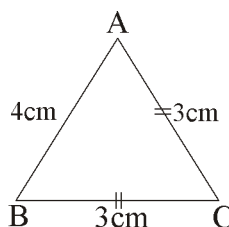
   (A) 9   (B) 10

   (C) 11   (D) 12

2. Multiply the 4th multiple of 4 by 10 :

   (A) 40   (B) 80

   (C) 120   (D) 160

3. Identify the figure given below :

   (A) An equilateral triangle

   (B) A scalene triangle

   (C) An isosceles triangle

   (D) Both A and C

4. Identify the perimetre of the square whose length of one side is 7 cm :

   (A) 14 cm   (B) 14 cm^2

   (C) 28 cm   (D) 28 cm^2

5. If T = 8, O = 9 and R = 5 then identify the value of sum of alphabets of "TROOT" from the following options:

   (A) 21   (B) 22

   (C) 39   (D) 36

6. Find the total number of factors of 36 :

   (A) 8   (B) 9

   (C) 6   (D) 18

7. Length of which one of the following can be measured?

   (A) Line   (B) Point

   (C) Line segment   (D) Ray

8. One of the equal angles of an isosceles triangle is of 50°. Find the measurement of third angle of the triangle :

   (A) 70°   (B) 80°

   (C) 90°   (D) 100°

9. Add the first three common multiples of 4 and 6. Find what least number should be added to it so that it becomes the multiple of 11?

   (A) 1   (B) 7

   (C) 5   (D) 10

10. Identify the value of Roman symbol L from the following options :

(A) 10   (B) 20

(C) 40   (D) 50

11. The common factors of 28 and 36 are ____?
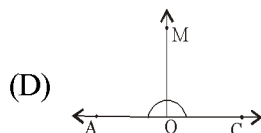
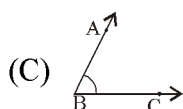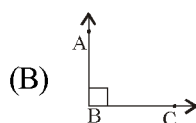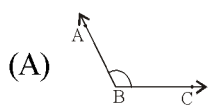(A) 2   (B) 2, 4

(C) 2, 4, 12   (D) 2, 3, 4

12. Length and breadth of a box is 8 cm and 12 cm if its volume is 672 cm then find its height?

(A) 6 cm   (B) 7 cm

(C) 8 cm   (D) 9 cm

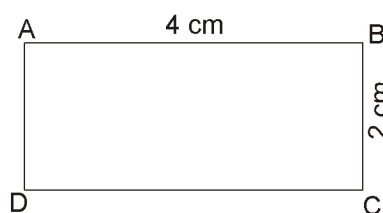**13.** Product of 25 and 5 is equal to the product of :

(A) 5×125 (B) $\dfrac{625}{25} \times 5$

(C) 15×15 (D) 25×25

14. Which one of the following is an obtuse angle?

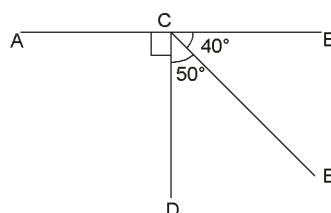(A)   (B)

(C)   (D)

15. Find the area of the following figure :

(A) 12 cm^2

(B) 6 cm^2

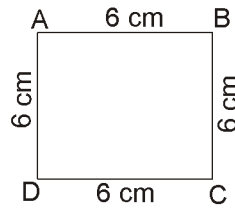(C) 8 cm^2

(D) 2 cm^2

16. Find $\angle DCB$ in the following figure :

(A) 50°

(B) 10°

(C) 90°

(D) 45°

17. Find the area of the following figure :
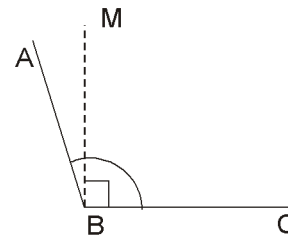
(A) 24 cm²

(B) 36 cm²

(C) 72 cm²

(D) 96 cm²

18. Which one of the following is the largest common factor of 24, 56 and 72?

(A) 4

(B) 12

(C) 2

(D) 8

19. Identify the obtuse angle in the following figure :
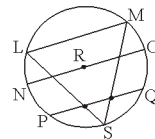
(A) ∠MBC

(B) ∠ABM

(C) ∠ABC

(D) All of these

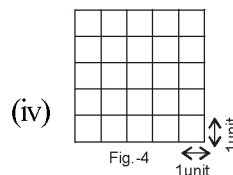**20.** Simplify : $\dfrac{5}{4} \times \left(\dfrac{3}{7} + \dfrac{1}{14} \right)$:

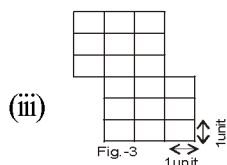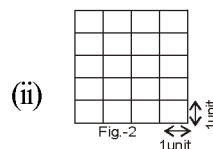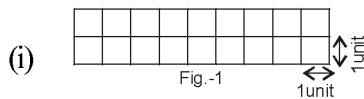(A) $\dfrac{5}{5}$

(B) $\dfrac{8}{5}$

(C) $\dfrac{5}{8}$

(D) $\dfrac{25}{16}$

21. How many chords and radii have been shown in the given circle?
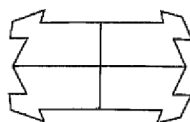
(A) 6, 5

(B) 5, 7

(C) 5, 2

(D) 2, 5

22. Which of the following figures has equal area?

(i) Fig.-1

(ii) Fig.-2

(iii) Fig.-3

(iv) Fig.-4

(A) Fig.-1 and Fig.-2

(B) Fig.-2 and Fig.-3

(C) Fig.-1 and Fig.-4

(D) Fig.-1 and Fig.-3

23. How many right angles are there in the following figure?

(A) 10

(B) 8

(C) 14

(D) 12

24. Which one of the following numbers should be added to 21st multiple of 3 so that it becomes the multiple of 4 :

(A) 4   (B) 5

(C) 8   (D) 2

25. Which one of the following letters has two parallel lines?

(A) Y   (B) X

(C) L   (D) None of these

26 Who am I?

I am a two-digit even number

I am a common multiple of 7 and 6

I have a total of 8 factors

(A) 53   (B) 36

(C) 48   (D) 42

27. How many unit cubes are there in the figure given below?

(A) 50

(B) 48

(C) 52

(D) 54
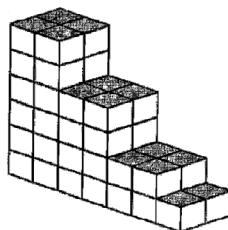
28. What is the measure of the angle formed by hour hand and minute hand when the clock shows the time 3 O'clock?

(A) 45°   (B) 180°

(C) 60°   (D) 90°

29. Find the volume of the given solid :

(A) 48 cm³

(B) 38 cm³

(C) 42 cm³

(D) 32 cm³
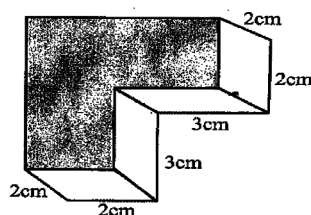
30. Thirteen crore thirteen lakh thirteen thousand three hundred and thirteen is :

(A) 1313131313   (B) 131313313

(C) 13131313   (D) 131313013

PART II : SCIENCE

This section contains 20 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

CRUX OF THE MATTER (31 TO 34)

31. Fill in the blank :

(A) A: gained; B: reduced

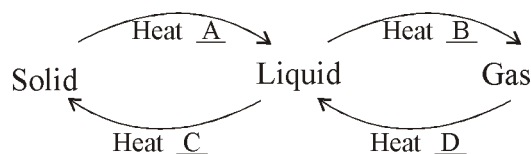(B) A: reduce; B: gained

(C) A: gained; C:reduced

(D) A : gained ; C: gained

Solid $\xrightarrow{\text{Heat } A}$ Liquid $\xrightarrow{\text{Heat } B}$ Gas

$\xleftarrow{\text{Heat } C}$ $\xleftarrow{\text{Heat } D}$

32. The amount of matter in an object is called its _____ .

(A) Mass

(B) Volume

(C) Area

(D) Particle

33. The smallest part of matter is called a _____ .

(A) Property

(B) Particle

(C) part

(D) Arrangement

34. The particles in matter are held together by :

(A) Push forces

(B) Pull forces

(C) Attractive forces

(D) Both (B) and (C)

SURVIVAL OF THE FITTEST (35 TO 38)

35. An adaptation of animals that helps them to survive in winters by going into a deep sleep _____

(A) Hibernation

(B) Adaptation

(C) Reproduction

(D) Aestivation

36. The movement of animals from one place to another as the seasons change is called _____

(A) Hibernation

(B) Migration

(C) Respiration

(D) Adaptation

37. Seeds which are dispersed by wind are _____

(A) Cotton Seeds

(B) Silver birches

(C) Beans

(D) Pea

38. * Moist skin

* Lives both on land and in water

* Breathe through gills when young

Which of the following could be the group of animals described above ?

(A) Mammals

(B) Fish

(C) Amphibians

(D) Aves

YOU ARE WHAT YOU EAT (39 TO 42)

39. Intake of _____ will prevent us from scurvy diease and will also help in curing common cold :

   (A) Green leafy vegetables   (B) Citrus fruits

   (C) Pulses   (D) Whole wheat bread

40. When you get sick, your body tissues become weak. What should you take to build and repair the damaged tissues?

   (A) Water   (B) Roughage

   (C) Proteins   (D) Fats

41. On a hot day, a construction worker sweats a lot. He should drink enough water or he may suffer from_____

   (A) Night blindness   (B) Marasmus

   (C) Dehydration   (D) Kwashiorker

42. The symptoms of a disease caused due to deficiency of a vitamin are give below :

   → Bleeding of gums →Wounds that do not heal →Swelling of joints

   (A) Vitamin A   (B) Vitmamin B

   (C) Vitamin C   (D) Vitmamin D

POWER HOUSE (43 TO 46)

43. All living things obtain energy from _____

   (A) Sound   (B) Electricity

   (C) Food   (D) Magnets

44. _____ energy is the form of energy that enables us to see things :

   (A) Light   (B) Chemical

   (C) Sound   (D) Electrical

45. _____ is an example of the use of heat energy :

   (A) Watering plants   (B) Ironing clothes

   (C) Learning   (D) Writing

46. Energy that is obtained from the Sun _____

   (A) Solar energy   (B) Wind energy

   (C) Sound energy   (D) All of these

ANIMALS ON OUR PLANET (47 TO 50)

47. Which of the following is/are example of omnivore animal :

   (A) Fox   (B) Pig

   (C) Cow   (D) Mosquito

48. Earth's polar regions are extremely cold and covered with snow. Which of the following features does the polar bear have to withstand the cold in these regions?

(A) Thick fur   (B) Hollow bones

(C) Paddle like   (D) Webbed feet

49. A baby x breathe through its gills. An adult x breathes through its lungs on land. What is x?

(A) Whale   (B) Crocodile

(C) Frog   (D) Fish

50. Arachnids have _____ legs :

(A) 6   (B) 4

(C) 8   (D) 2

PART III : LOGICAL REASONING & IQ

*This section contains **10 Multiple Choice Questions**. Each question has four choices **(A), (B), (C) and (D)** out of which **ONLY ONE** is correct.*

51. Find the missing number :

3, 5, 7, 9, ?

(A) 11   (B) 13

(C) 10   (D) 14

52. Find the missing term :

L, P, T ?

(A) M   (B) X

(C) Y   (D) N

53. Irfan is 14th from the right end in a row of 40 boys. What is his position from the left end?

(A) 24th   (B) 25th

(C) 26th   (D) 27th

54. Tanish ranks 7th from the top and 26th from the bottom in a class. How many students are there in the class?

(A) 31   (B) 32

(C) 33   (D) 34

55. Rajni goes to market which is towards East from her house. If she has to return home, in which direction will she come?

(A) South   (B) West

(C) North   (D) East

56. Amit covers 2 km towards East from his house. Then he turns right and coveres 1 km. Then he again turns right and covers 2 km. Now, how far is he from starting point?

(A) 2 km   (B) 5 km

(C) 1 km   (D) 3 km

57. Find the correct group of signs to solve the equation :

9_3_2_4 = 10

(A) ÷, ×, +   (B) ×, ÷, +

(C) +, −, ÷   (D) ×, + , −

58. If ' + means –, ' – means ×', ' × means ÷' and '÷ means +' then 40 × 10 − 5 + 4 = ?

(A) 20   (B) 16

(C) 22   (D) 18

59. Find the mirror image :

IDEAS

(A) ƧAƎDI   (B) ƧAEDI
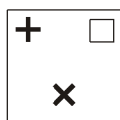
(C) IDƎAƧ   (D) SAƎDI

60. Find the water image :

(A)   (B)

(C)   (D)