OLIVE MISSION

A Residential Academic Programme

Scholarship Entrance Exam

OLIVENEET 2024

For Class-IX in 2024-2025

Name of Student: _____ Roll No._____

Course Name: _____Invigilator Sign/Date _____

Duration : 2 hrs

General Instruction-

- This question paper consists of questions from Mental Aptitude Test, English, Social Sciences, Science, Mathematics, Computer
- Multiple choice questions with one correct answer Question No. 1 to 70.
- No marks will be allotted/deducted if a questions is left unattempt.
- Blank papers, calculators, tablets, mobile phones or any other electronic gadget in any form are not allowed to be used.
- Write your name & Application form in BOLD (BLUE/BLAK Ball Point Pen) in the space provided of this booklet.
- All the rough work is to be done in the blank space provided in the question paper.

Mark distribution of question is as follows-

Question no.	Subject
1 to 20	English
21 to 45	Mathematics
46 to 70	Science

Subject- English

1. Meaning of the word 'Diligent' is …
(a) Fool (b) Unhappy (c) Hardworking

2. 'Pay my fees by time.'This is an example of which type of sentences?
(a) Imperative (b) Assertive (c) Exclamatory

3. Deri seems…..some weight.
(a) having lost (b) to have lost (c) to have been lost

4. Choose the antonym for word 'Accountable'.
(a) Guilty (b) Innocent (c) Punishable

5. What is the synonym of word 'Eventually'?
(a) Suddenly (b) Ultimately (c) Quickly

6. The antonym of 'Accurate' is ….
(a) Precise (b) Deceptive. (c) Particular

7. One who loves one's country -
(Choose the correct one word substitution).
(a) Revolutionary (b) Ambassador (c) Patriot

8. Ritesh likes sweets a lot. (Identify the types of adverb)
(a) Manner (b) Frequency (c) Degree

9. He …..to my house to tell me what……
(a) Came, happened. (b) comes,happens (c) came,had happened

10. I told him that I ……hard for the last four hours. (work)
(a) worked (b) am working (c) had been working

11. ……he is busy ,he finds enough time for his family
(a) As (b) Though (c) If

12. Which pair of nouns is composed of males and females?
(a) Hen-Chick (b) Bull-Cow (c) lady-lass

13. 'We are going to reach the destination as scheduled'.This sentence is in
(a) Present Perfect. (b) Present Continuous. (c) Simple Present

14. What Billy did shocked his friends.
(a) Noun phrase (b) Noun clause (c) Adjective clause

15. When we get ready for dinner I have to take my books…..the table.
(Choose the correct preposition)
(a) Off (b) Out (c) From

16. Every weekend we put trash can…..for garbage collection.
(a) Across. (b) Out (c) At

17. The choir will sing a song.
(a) A song will sing a song (b) A song will be sung by a choir.
(c) A song will being sung by a choir.

18. He said to me," When can you go to Ambala?"
(a) He asked me when I could go to Ambala.
(b) He told me that he could go to Ambala.
(c) He asked me if he could go to Ambala.

19. She _____ her office by 9 a.m. daily.
(a) reach. (b) reaches. (c) reached. (d) reaching

20. The company _____ of its stakeholders.
(a) think. (b) thought. (c) thinks. (d) thinking

Subject-Maths

21. The diagonal of a rectangle is inclined to one side of the rectangle at 25^0.The acute angle between the diagonals is
(a) 55^0 (b) 50^0 (c) 40^0 (d) none of these

22. Fatorisation of $\mathbf{x^2 - 2xy + y^2 - z^2}$ **is:**
(a) $(x + y + z)(x - y + z)$ (b) $(x - y + z)(x - y + z)$
(c) $(x + y - z)(x - y + z)$ (d) $(x - y - z)(x - y + z)$

23. Solve for $(4x^2 - 100) \div 6(x + 5)$
(a) $\frac{2}{3}(x - 5)$ (b) $(x - 5)$ (c) $\frac{2}{3}(x + 5)$ (d) $(x + 5)$

24. ABCD is a rhombus such that $\angle ACB = 40^0$, then $\angle ADB$ =
(a) 45^0 (b) 50^0 (c) 40^0 (d) 60^0

25. If 15 workers can finish a task in 42 hours, calculate the number of workers required to complete the same task in 30 hours.
(a) 24. (b) 21 (c) 30 (d) 26

26. Simplify $[25 \times t^{-4}]/[5^{-3} \times 10 \times t^{-8}]$
(a) $[625/2]\, t^4$ (b) $[625/2]\, t^3$ (c) $[25/2]\, t^4$ (d) $[625]\, t^4$

28. A square and a rectangle have the same perimeter. Calculate the area of the rectangle if the side of the square is 60 cm and the length of the rectangle is 80 cm.
(a) 6400 cm^2 (b) 3200 cm^2 (c) 320 cm^2 (d) 32000 cm^2

29. From a circular sheet of radius 4 cm, a circle of radius 3 cm is cut out. Calculate the area of the remaining sheet after the smaller circle is removed.
(a) 7π cm^2 (b) 8π cm^2 (c) 6π cm^2 (d) 9π cm^2

30 .A tetrahedron has 4 vertices and 6 edges. Find the number of faces it has.
(a) 4. (b) 2 (c) 3 (d) 6

31. $7x^2(3x - 9) + 3$. find its values for $x = 6$·

(a) 2217. (b) 2271 (c) 3089 (d) 2089

32. If 72% of 25 students like maths, find out the number of students who do not like mathematics**?**

(a) 2. (b) 7 (c) 9 (d) 8

33. Find the smallest number by which 128 must be divided to obtain a perfect cube.

(a) 2. (b) 3 (c) 4 (d) 6

34. Find the cube root of 17576

(a) 21. (b) 23 (c) 24 (d) 26

35. Mr X went shopping with a certain amount of money. He spent Rs. 10(¼) on buying a pen And Rs. 25(¾) in food. He then gave the remaining Rs. 16(½) to his friend. Calculate how much money he initially had**.**

(a) Rs. 105/2 . (b) Rs. 115/2 (c) Rs. 105 (d) Rs. 55/2

36. Solve for x: 2(x+2)+5(x+5)=4(x-8)+2(x-2)

(a) 65 (b) -65 (c) -70 (d) 70

37. The median of the following data is

X	0–5	5–10	10–15	15–20	20–25
frequency	2	4	6	8	10

(a) 10 (b) 7 (c) 25 (d) 15

38. Total surface area of a hemisphere is 4158 cm^2 then the diameter of the hemisphere is equal to _____ cm. (Take $\pi = 22/7$)

(a) 40 cm (b) 20 cm (c) 21 cm (d) 42 cm

39. What is the total surface area of a cone of radius 7cm and height 24cm? (Take $\pi = 22/7$)

(a) 710 cm^2 (b) 704 cm^2 (c) 700 cm^2 (d) 725 cm^2

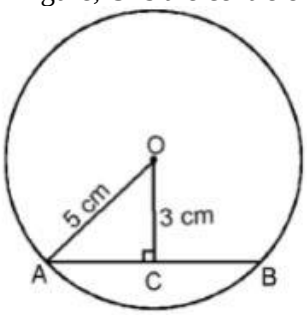
40. The sides of a triangle are in a ratio of 25:14:12 and its perimeter is 510 m. The greatest side of the triangle is:

a) 270 m b) 250 m c) 170 m d) 120 m

41. The sides of a triangle are 35 cm, 54 cm and 61 cm, respectively. The length of its longest altitude is:

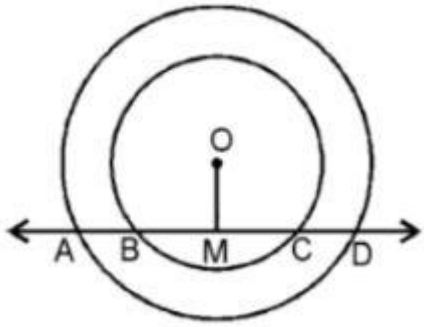
a) $10\sqrt{5}$ cm b) $16\sqrt{5}$ cm c) $24\sqrt{5}$ cm d) 28 cm

42. In the given figure, O is the centre of the circle. If OA = 5 cm and OC = 3 cm, then find the length of AB.



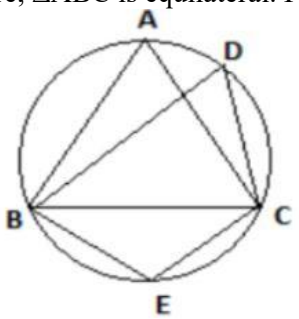
(a) 7 cm (b) 9 cm (c) 8 cm (d) 10 cm

43. Two concentric circles with centre O have A, B, C and D as points of intersection with a line l as shown in the figure. IfAD =12 cm and BC = 8 cm, find the length of AB and CD.



(a) 4 cm (b) 6 cm (c) 10 cm (d) 2 cm

44. In the figure, ΔABC is equilateral. Find ∠BDC and ∠BEC.



(a) 60^0, 110^0 (b) 50^0, 120^0 (c) 60^0, 120^0 (d) 70^0, 130^0

45. In a ΔABC, P, Q, R, are the midpoints of the sides BC, CA and AB respectively. If AC = 21cm, BC = 29cm, AB = 30cm.Find the perimeter of quadrilateral ARPQ.

(a) 20 cm (b) 52cm (c) 51cm (d) 80cm

Subject-Science

46. In which of the following conditions, the distance between the molecules of hydrogen gas would increase?
(i) Increasing pressure on hydrogen contained in a closed container
(ii) Some hydrogen gas leaking out of the container
(iii) Increasing the volume of the container of hydrogen gas
(iv) Adding more hydrogen gas to the container without increasing the volume of the container
(a) (i) and (iii)
(b) (i) and (iv)
(c) (ii) and (iii)
(d) (ii) and (iv)

47. When a gas jar full of air is placed upside down on a gas jar full of bromine vapours, the red-brown vapours of bromine from the lower jar go upward into the jar containing air. In this experiment:
(a) Air is heavier than bromine
(b) Both air and bromine have the same density
(c) Bromine is heavier than air
(d) Bromine cannot be heavier than air because it is going upwards against gravity

48. A form of matter has no fixed shape but it has a fixed volume. An example of this form of matter is
(a) Krypton (b) Kerosene (c) Carbon steel (d) Carbon dioxide

49. What is the name of the metal which exists in liquid state at room temperature?
(a) Sodium (b) Potassium (c) Mercury (d) Bromine

50. When the liquid is spun rapidly, the denser particles are forced to the bottom and the lighter particles stay at the top. This principle is used in:
(a) Centrifugation (b) Fractional distillation
(c) Evaporation (d) Tunneling

51. Which of the following elements is not a metalloid?
(a) Boron (b) Silicon (c) Germanium (d) Tungsten

52. Which of the following statements is not true about an atom?
(a) Atoms are not able to exist independently.
(b) Atoms are the basic units from which molecules and ions are formed.
(c) Atoms are always neutral in nature.
(d) Atoms aggregate in large numbers to form the matter that we can see, feel or touch.

53. A sample of NH_3 molecule irrespective of source contains 82.35% Nitrogen and 17.65% of Hydrogen by mass. This data supports:
(a) Law of Conservation of Mass (b) Las of Multiple Proportions
(c) Law of Definite Proportions (d) Avogadro's Law

54. Which isotope is used in the nuclear power plants to generate electricity?
(a) Uranium 235 (b) Iodine 131 (c) Cobalt 60 (d) Uranium 238

55. Lysosome is a cytoplasmic organelle containing enzymes that break down biological polymers. Lysosomes function as the digestive system of the cell. It is also called the suicide bag of the cell because:
(a) It causes any cell to commit suicide
(b) Its enzymes digest the cell itself
(c) Its enzymes kill surrounding cells
(d) All of the above

56. While doing work and running, you move your organs like hands, legs, etc. Which among the following is correct?
(a) Smooth muscles contract and pull the ligament to move the bones
(b) Smooth muscles contract and pull the tendons to move the bones
(c) Skeletal muscles contract and pull the ligament to move the bones
(d) Skeletal muscles contract and pull the tendon to move the bones

57. Which of the following is used in metal extraction?
a. Coke b. Petroleum c. Coal gas d. Coal tar

58. In India, which association advises people on saving petrol or diesel while driving?
a. Petroleum Conservation Research Association (PCRA)
b. Coal Conservation Research Association (CCRA)
c. Eco-driving advice
d. Petroleum Conservation Association (PCA)

59. Cardiac muscle is one of the three major types of muscles, the others being skeletal and smooth muscles. It is found in the walls and histological foundation of the heart. Which one of the following statements is not related to the cardiac muscles?
(a) They muscles show rhythmic contraction and relaxation throughout life.
(b) They do not work according to our will, so they are called involuntary muscles.
(c) They are non-striated, multinucleated and branched muscles.
(d) The contraction and relaxation of the heart muscles help to pump and distribute blood to different parts of the body.

60. Which of the following statement marks as a difference between plant cell and animal cell?
(a) Plant cells have cell wall which animal cells do not.
(b) Plant cells do not have vacuole while animal cells do have.
(c) Plant cells have only cell membrane while animal cells have both cell wall as well as cell membrane.
(d) Plant cells have more plastids while animal cells have few plastids.

61. A cell will swell up if
(a) The concentration of water molecules in the cell is higher than the concentration of water molecules in the surrounding medium.
(b) The concentration of water molecules in the surrounding medium is higher than the concentration of water molecules in the cell.
(c) The concentration of water molecules is same in the cell and in the surrounding medium
(d) The concentration of water molecules does not matter.

62. A goalkeeper in a game of football pulls his hands backwards after holding the ball shot at the goal. This enables the goalkeeper to:
(a) Exert large force on the ball
(b) Increases the force exerted by the ball on hands
(c) Increase the rate of change of momentum
(d) Decrease the rate of change of momentum

63. Newton's third law of motion explains the two forces namely 'action' and 'reaction' coming into action when the two bodies are in contact with each other. These two forces:
(a) Always act on the same body
(b) Always act on the different bodies in opposite directions
(c) Have same magnitude and direction
(d) Acts on either body at normal to each other

64. A water tank filled upto 2/3 of its height is moving with a uniform speed. On sudden application of the brake, the water in the tank would
(a) Move backward (b) Move forward
(c) Come to the rest (d) Be unaffected

65. The sound can travel in air when:
(a) Particles of medium travel from one place to another
(b) There is no moisture in the atmosphere
(c) Disturbance travel from one place to another
(d) Both particles as well as disturbance travel from one place to another

66. A key of mechanical piano is first struck gently and then struck again but much harder this time. What kind of change in sound will you observe in the second case:
(a) Sound will be louder but the pitch will not be different
(b) Sound will be louder and the pitch will also be higher
(c) Sound will be louder but the pitch will be lower
(d) Both loudness and pitch will remain unaffected

67. Before the main shock waves, the earthquake produces the characteristic sound waves which some animals like rhinoceros can hear. Can you guess the kind of sound waves produced here?
(a) Infrasonic sounds (b) Ultrasonic sounds
(c) Audible Sounds (d) None of these

68. The mass of moon is about 0.012 times that of the earth and its diameter is about 0.25 times that of earth. The value of G on the moon will be:
(a) Same as that on the earth
(b) About one-fifth of that on the earth
(c) About one-sixth of that on the earth
(d) About one-fourth of that on the earth

69. An apple falls from a tree because of the gravitational attraction between the earth and the apple. If F1 is the magnitude of the force exerted by the earth on the apple and F2 is the magnitude of the force exerted by the apple on the earth, then
(a) F1 is very much greater than F2
(b) F2 is very much greater than F1
(c) F1 and F2 are equal
(d) F1 is only a little greater than F2

70. When a piece of cork is put into the water it starts floating on the surface of water due to the upward buoyant force from water. If the cork is pushed more inside the water by applying the force than the buoyant force:
(a) Will increase as the cork is immersed into the water
(b) Will decrease as the cork is immersed into the water
(c) Will first increase and then decrease as the cork is immersed more into the water
(d) Will remain the same as long as the cork is inside the water