

CLASS

**8th to 9th
Moving**

CODE

A



MODULUS
SMART SCHOOL

PRE-FOUNDATION | CUET | NDA | CLAT | IPMAT

Dream

Believe

Achieve

Intelli-Mind Scholarship Exam

MAXIMUM TIME - 1:30 Hrs.

MAXIMUM MARKS: 60

GENERAL INSTRUCTIONS for The Test :-

- **The question paper consists of 3 sections (Section –A contains Science, Section-B contains Mathematics, Section-C contains English.**
- **This Question Paper contains a total of 60 questions.**
- **Write the correct answer for each question in your answer sheet.**
- **All questions are single correct type questions, each of these questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.**
- **For each question, you will be awarded 4 **marks** if you have darkened only the bubble corresponding to the correct answer.**
- **Zero mark if no bubble is darkened.**
- **In all other cases, minus one (**–1**) **mark** will be awarded.**

Student's Signature

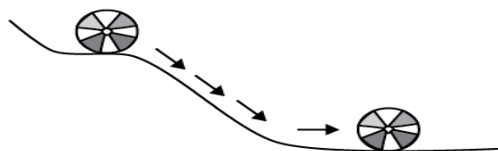
Invigilator's Signature

Section – A (CHEMISTRY)

1. Strong acid + Weak base $\longrightarrow$ Y + H₂O + Heat the substance Y is
(a) Neutral salt (b) Basic salt
(c) Acidic salt (d) Double salt
2. Electrolysis of water is
(a) Physical change (b) Chemical change
(c) Both 1 and 2 (d) None of these
3. Which gas is evolved when potassium carbonate is treated with dilute HCl?
(a) Hydrogen (H₂) (b) Sulphur dioxide (SO₂)
(c) Carbon monoxide (CO) (d) Carbon dioxide (CO₂)
4. Which of the following can displace Iron from FeSO₄ solution?
(a) Zinc (b) Copper
(c) Silver (d) None of these
5. When huge amount of sewage is dumped into a river, the BOD will :
(a) Decrease (b) Increase
(c) Remain unchanged (d) none of the above
6. Thermosetting plastic is
(a) Bakelite (b) PVC
(c) Polyethylene (d) Both (1) and (2)
7. One of the first man-made fibre is:
(a) Rayon (b) Nylon
(c) Polyester (d) None of these

PHYSICS

8. A truck and a car are moving with velocity v towards each other. They collide head in and stops after some time. If the time of collision is 1 sec, which vehicle will have maximum change in momentum? (**FORCE AND PRESSURE**)
(a) Car (b) Truck
(c) Both will have same (d) none of these
9. When pressure is applied through a piston at the top of a closed tube containing water, the pressure is transmitted to:- (**FORCE AND PRESSURE**)
(a) Only the bottom of container (b) All directions
(c) Only the side faces and the bottom of the container (d) none of these
10. The given diagram shows a ball rolling down a slope. The ball finally comes to a stop by itself. Which of the following statements describe most likely cause for the ball to stop? (**Friction**)



- (a) The heat produced as a result of its motion. (b) The speed produced as a result of its motion.
 (c) The friction between the ball and the surface. (d) The energy produced as a result of its motion.

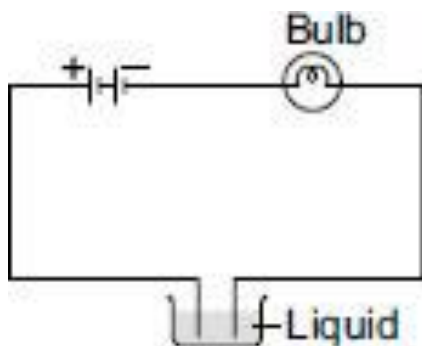
11. The frequency of a source is 20 kHz. The frequencies of sound wave produced by it in water and air will be: **(Sound)**

- (a) Same as that of source ≈ 20 kHz (b) > 20 kHz
 (c) < 20 kHz (d) Depends upon velocity

12. Sound travels through air, steel, and water at different speeds. Which list is ordered from the substance that sound will travel through the slowest to the substance that sound will travel through the fastest? **(Sound)**

- (a) air, water, steel (b) water, air, steel
 (c) water, steel, air (d) steel, air, water

13. The given figure shows a set-up for testing conduction of electricity in different liquids. Pick out the group of liquids for which the bulb will not glow



- (a) Milk, Lemon juice, tap water, Honey (b) Vinegar, Tap water, Kerosene, Lemon juice
 (c) Honey, Kerosene, Vegetable oil, Distilled water (d) Vegetable oil, Distilled water, Vinegar, Kerosene

14. The refractive index of flint glass is 1.65, and that of alcohol is 1.36 with respect to air. What is the refractive index of the flint glass with respect to alcohol?

- (a) 0.82 (b) 1.21
 (c) 1.11 (d) 1.01

BIOLOGY

15. Choose odd option from the following

- (a) Pitcher plant
- (b) Sundew plant
- (c) Venus fly trap
- (d) Lichen

16. Which cells are likely to possess the highest numbers of mitochondria?

- (a) Hair cells
- (b) Skin surface cells
- (c) Red blood cell
- (d) Muscle cell

17. Factor not essential for photosynthesis is

- (a) O₂
- (b) CO₂
- (c) H₂ O
- (d) Chlorophyll

18. Which crops are known as winter crop?

- (a) Kharif crop
- (b) Zaid crop
- (c) Rabi crop
- (d) none of these

19. Which animal are ovoviviparous animal

- (a) Dogs
- (b) Lions
- (c) Rattle snake
- (d) Elephant

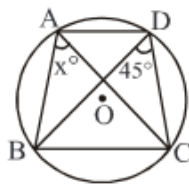
20. Which microorganism is the connecting link between living and non living?

- (a) Bacteria
- (b) Protozoa
- (c) Virus
- (d) Fungus

Section – B (Mathematic)

21. If $a = 2 + \sqrt{3}$ and $b = 2 - \sqrt{3}$, then $\frac{1}{a} + \frac{1}{b}$ is equal to -
(A) $2\sqrt{3}$ (B) $-2\sqrt{3}$ (C) 4 (D) -4
22. What must be added to the sum of $4x^2 + 3x - 7$ and $3x^2 + 6x + 5$ to get : 1?
(A) $7x^2 + 9x - 3$ (B) $3 - 9x - 7x^2$ (C) $7x^2 + 9x - 2$ (D) None of these
23. $\sqrt{0.01 + \sqrt{0.0064}} = ?$
(A) 0.03 (B) 0.3 (C) 0.42 (D) None
24. If $x^{1/3} + y^{1/3} + z^{1/3} = 0$, then -
(A) $x + y + z = 0$ (B) $(x + y + z)^3 = 27xyz$
(C) $x + y + z = 3xyz$ (D) $x^3 + y^3 + z^3 = 0$
25. Find the value of x if : $\frac{3x+5}{2x+7} = 5$
(A) $\frac{7}{30}$ (B) $\frac{30}{7}$ (C) $\frac{-30}{7}$ (D) $\frac{-7}{30}$
26. Three numbers are in the ratio 4 : 5 : 6 and their average is 25. The largest number is :
(A) 30 (B) 32 (C) 36 (D) 42
27. Find the volume of a cuboid of $\ell = 10$ cm, $b = 8$ cm and $h = 6$ cm.
(A) 480 cm^2 (B) 376 cm^3 (C) 480 cm^3 (D) 420 cm^3
28. Find the area of a right-angled triangle whose base is 12 cm and hypotenuse 13 cm.
(A) 78 cm^2 (B) 30 cm^2 (C) 30 cm^3 (D) 40 cm^2
29. What is 15 percent of Rs. 34 ?
(A) Rs. 3.40 (B) Rs. 3.75 (C) Rs. 4.50 (D) Rs. 5.10
30. 0.01 is what percent of 0.1 ?
(A) $\frac{1}{100}$ (B) $\frac{1}{10}$ (C) 10 (D) 100
31. Three unbiased coins are tossed. What is the probability of getting at most two heads?
(A) $\frac{3}{4}$ (B) $\frac{1}{4}$ (C) $\frac{3}{8}$ (D) $\frac{7}{8}$
32. The probability that a card drawn from a pack of 52 cards will be a diamond or a king, is :
(A) $\frac{2}{13}$ (B) $\frac{4}{13}$ (C) $\frac{1}{13}$ (D) $\frac{1}{52}$
33. Mode is :
(A) Least frequent value (B) Middle most value
(C) Most frequent value (D) None of these
34. Mean of first n natural numbers is -
(A) $\frac{n(n-1)}{2}$ (B) $\frac{n(n+1)}{2}$ (C) $\frac{(n+1)}{2n}$ (D) $\frac{n+1}{2}$
35. The average of first five multiples of 3 is:
(A) 3 (B) 9 (C) 12 (D) 15
36. If a, b, c, d, e are five consecutive odd numbers, their average is:
(A) $5(a + 4)$ (B) $\frac{abcde}{5}$ (C) $5(a+b+c+d+e)$ (D) None of these

37. $\frac{2^{n+3} - 2(2^n)}{2(2^{n+2})}$ when simplified is -
 (A) $1 - 2(2^n)$ (B) $2^{n+3} - \frac{1}{4}$ (C) $1 - \frac{1}{4}$ (D) $1 - \frac{1}{2}$
38. If $2^x - 2^{x-1} = 4$, then x^x is equal to
 (A) 1 (B) 27 (C) 3 (D) None of these
39. The value of $\frac{\sqrt{x^2+1} + \sqrt{x^2-1}}{\sqrt{x^2+1} - \sqrt{x^2-1}} + \frac{\sqrt{x^2+1} - \sqrt{x^2-1}}{\sqrt{x^2+1} + \sqrt{x^2-1}}$ is
 (A) $2x^2$ (B) $2x$ (C) x (D) x^2
40. If $\frac{(\sqrt{a} - \sqrt{b})^2 + 4\sqrt{ab}}{a - b} = \frac{5}{3}$, then the value of $a : b$ is -
 (A) 1 : 16 (B) 1 : 4 (C) 16 : 1 (D) None
41. In a simultaneous throw of two coins, the probability of getting at least one head is:
 (A) $\frac{1}{2}$ (B) $\frac{1}{3}$ (C) $\frac{2}{3}$ (D) $\frac{3}{4}$
42. A card is from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:
 (A) $\frac{1}{13}$ (B) $\frac{2}{13}$ (C) $\frac{1}{26}$ (D) $\frac{1}{52}$
43. If the arithmetic mean of 7, 5, 13, x and 9 be 10, then the value of x is :
 (A) 10 (B) 12 (C) 14 (D) 16
44. $(x_1 - \bar{x}) + (x_2 - \bar{x}) + \dots + (x_n - \bar{x}) =$
 (A) 0 (B) 1 (C) $\bar{x}$ (D) None of these
45. The average of 20 numbers is zero. Of them, at the most, how many may be greater than zero?
 (A) 0 (B) 1 (C) 10 (D) 19
46. The average of all odd numbers upto 100 is:
 (A) 49 (B) 49.5 (C) 50 (D) 51
47. The diameter of a blue ball is three times of a red ball of the same material. The ratio of the volumes of the blue ball to the red ball is :
 (a) 3 : 1 (b) 6 : 1 (c) 9 : 1 (d) 27 : 1
48. If the radius of a circle is increased by 75%, then its circumference will increase by :
 (a) 25% (b) 50% (c) 75% (d) 100%
49. O is the centre of the circle. Find the value of x ?



- (a) 45° (b) 90° (c) 60° (d) 30°
50. The length of a chord of a circle of radius 17cm and at a distance of 8cm from the centre is
 (a) 15 cm (b) 30 cm (c) 28 cm (d) 34 cm

Section – C (English)

(Poem)

Fame is a food that dead men eat,
I have no stomach for such meat.
In little light and narrow room,
They eat in the silent tomb.
With no kind voice of comrade near
To bid the feaster be of cheer.
But friendship is a noble thing,
Of friendship it is good to sing.
For truly when a man shall end,
He lives in memory of his friend,
Who doth his better part recall,
And of his fault make funeral.

Questions:

Now answer the following questions by choosing correct options:

51. By the expression ‘Fame is a food that dead men eat’ we mean

- (a) fame is enjoyed only after death
- (b) fame is enjoyed during life-time
- (c) fame is something like a food
- (d) fame dies with one’s death.

52. Friendship is a noble thing because

- (a) a man cannot live without friends
- (b) real friends are very helpful
- (c) a man always remembers the good qualities of his friend after his death
- (d) it enhances dignity of mankind.

53. Friendship is better than fame because in friendship

- (a) when a man dies he lives in the memory of his friend
- (b) a man always regards his friend
- (c) enmity never comes
- (d) a man is always happy in the company of his friend.

54. In the last line of the above poem the poet wants to convey that

- (a) one should believe in friendship
- (b) the faults of a man are highlighted by his friend after his death
- (c) ‘the faults of a man are forgotten by his friend after his death
- (d) one should not run after fame and friendship.

55. The word recall means

- (a) forget
- (b) come close
- (c) help
- (d) remember

56. I was born Shahdara Delhi.

- (a) in, in
- (b) at, in
- (c) at, at
- (d) on, at

Choose the word that is most nearly similar in meaning to the word in capital letters.

57. ADUMBRATE

- | | |
|------------|---------------|
| (a) hatred | (b) outline |
| (c) corpse | (d) dead body |

58. CADAVER

- | | |
|------------|----------------|
| (a) hatred | (b) outline |
| (c) corpse | (d) friendship |

59. Choose the word that is most nearly opposite in meaning to the word in capital letters.

CACOPHONY

- | | |
|-------------|---------------|
| (a) euphony | (b) cadaver |
| (c) hatred | (d) voracious |

60. Fill in the blanks with suitable choices.

Nowadays _____ attacks are common in the politics, and people do not bother to tell lie.

- | | |
|----------------|---------------|
| (a) skilled | (b) voracious |
| (c) slanderous | (d) biased |