Edge Educellence

Sample Paper

(Class IX studying moving to Class X)

IMPORTANT INSTRUCTIONS

A. GENERAL:
- Please read the instructions given for each question carefully and mark the correct answers against the question numbers on the answer sheet in the respective subjects.
- Duration of Test is 1 Hour.
- This Test contains 35 questions divided in 3 sections. Section I and Section II contains questions of Science (Physics, Chemistry and Biology) and Mathematics. Section III contains questions of Mental Ability.
- Maximum marks are 140.

B. MARKING SCHEME :

Each subject in this paper consists of following types of sections :-

SECTION – I
- The section contains **26** questions.
- Each question has four options. ***Only one*** of the four option is correct.
- For each question, marks will be awarded in one of the following categories :
  Full Marks   : +4, If only the correct options is marked.
  Zero Marks   : 0, If none of the option is marked.
  Negative Marks : - 1, In all other cases.

SECTION - II
- This section contains **4** questions
- Each question has four options. ***One or more than one*** of the four option(s) is(are) correct.
- For each question, marks will be awarded in one of the following categories :
  Full Marks   : +4 If only correct answer is marked
  Zero Marks   : 0, If none of the option is marked
  Negative Marks   : – 1, In all other cases.

SECTION - III
- This section contains **5** questions.
- Each question has four options. Only one option is correct.
- For each question, marks will be awarded in one of the following categories :
  Full Marks   : +4, If only the correct option is marked.
  Zero Marks   : 0, If none of the option is marked.
  Negative Marks : - 1, In all other cases.
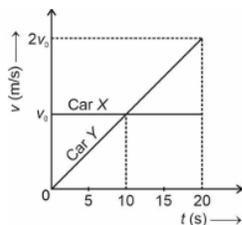
All the Best!

Section – I (Single Correct Answer)

1. If $(x + a)(x + b)(x + c) = x^3 - 10x^2 + 45x - 15$, then $a^2 + b^2 + c^2$ is equal to
    (a) 100   (b) 10   (c) 20   (d) 50

2. The cube root of 140608 is
    (a) 42   (b) 152   (c) 72   (d) 52

3. The earth attracts the moon with a gravitational force of 10^{20} N. The moon attracts the earth with a gravitational force of
    (a) Less than 10^{20} N   (b) Greater than 10^{20} N
    (c) Equal to 10^{20} N   (d) Equal to 10^{-20} N

4. A moving car possesses average velocities of 5 m/s, 10 m/s and 15 m/s in the first, second and third seconds respectively. What is the total distance covered by the car in these 3 s?
    (a) 20 m   (b) 30 m   (c) 12 m   (d) 15 m

5. The chemical symbol for potassium is
    (a) P   (b) Po   (c) K   (d) Ko

6. Consider the following statements:
    I.   Ammonium ion is a polyatomic cation.
    II.   Chemical formula of nitric acid is HNO_3.
    III.   Formula unit mass of quicklime is 56 u.
    IV.   Number of atoms present in the molecule of ethyne is 6.

    The correct statements are

    (a) I, II and III   (b) II, III and IV   (c) I, III and IV   (d) I, II and IV

7. Which of the following can be separated by distillation?
    (a) Colors in a dye   (b) Drugs from blood
    (c) Pigments from natural colors   (d) Water from acetone-water mixture

8. Which of the following is a multicellular organism?
    (a) Bacterium   (b) Greater than 10^{20} N
    (c) Chlamydommonas   (d) Penicillium

9. The disease ……(A)…….. is transmitted by sexual contact whereas the disease ………(B)…….. spread through the bite of infected dogs. Here, (A) and (B) respectively are
    (a) Typhoid and syphilis   (b) AIDS and rabies
    (c) Pneumonia and AIDS   (d) Syphilis and tuberculosis

10. Amongst the following, who coined the term protoplasm for the fluid substance of the cell?
    (a) Robert Hooke   (b) Robert Brown
    (c) Purkinje   (d) Virchow

11. If one of the zeroes of the polynomial $p(x) = 2x^2 - Kx - 3$ is 3, then the other zero is
    (a) 2   (b) – 2   (c) $-\frac{1}{2}$ (d) $\frac{1}{2}$

12. Which of the following cannot be the solution of the equation $4x + 5y = k$, where k is a whole number?
    (a) (–4, 5)   (b) (5, – 4)   (c) (2, –1)   (d) (8, – 7)
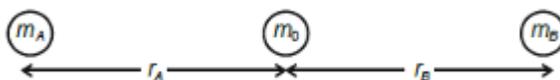
13. **Assertion (A) :** If (a, b) are the coordinates of a point lying on y-axis, then the value of $\frac{1}{2}K +$ 1 (*where* $K \in N$) is 1.

    Reason (R) : Every point on x-axis if of the form of (a, 0)
    (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.

14. Which of the following statement is incorrect about mass?
    (a) The mass of an object is the measure of its inertia
    (b) It is the quantity of matter contained in a body
    (c) Greater the mass of a body more will be its inertia.
    (d) The mass of an object on the moon is one-sixth of mass on the earth.

15. The sides of a hexagon are produced in order, which of the following is the sum of its exterior angles?
    (a) 540º   (b) 270º   (c) 360º   (d) 720º

16. **Assertion (A) :** Good economic conditions and jobs are the needs for individual's health.
    Reason (R) : Public cleanliness is important for individual's health.
    (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.

17. A body of mass 50 g moving a uniform velocity has linear momentum 1 kg m/s. The velocity of the body is
    (a) 20 m/s   (b) 50 m/s   (c) 1 m/s   (d) 200 m/s

18. Which of the following is non-renewable source of energy?
    (a) Solar energy   (b) Biogas
    (c) Geothermal energy   (d) Coal

19. **Assertion (A) :** Rider on a horse falls backward when horse starts running suddenly.
    Reason (R) : Inertia of rest keeps the upper part of body at rest whereas lower part of the body moves forward with the horse.
    (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.

20. The given figure shows velocity (v)-time(t) graph for cars X and Y. At time t = 0, car X passes car Y. If both the cars travel in same direction on two parallel lanes of the same straight road, then at time t = 20 s

(a) Car Y is 10 m behind the car X
(b) Car X is 20 m behind the car Y
(c) Both the cars are crossing same point
(d) Car X is 30 m behind the car Y

21. The plasma membrane of an animal cell consist of
    (a) Proteins, lipids, and cellulose   (b) Lipids, proteins and carbohydrates
    (c) Proteins, pectin and cellulose   (d) Hemicellulose, proteins and lipids

22. A force of 5N produces an acceleration of 8 m/s^2 on a mass m_1 and an acceleration of 24 m/s^2 on a mass m_2. What acceleration would be the same force provide if both the masses are tied together?
    (a) 6 m/s^2 (b) 12 m/s^2 (c) 13 m/s^2 (d) 20 m/s^2

23. Calculate the number of atoms present in 71g of Cl_2
    (a) 1.205×10^{25} atoms   (b) 1.205×10^{24} atoms
    (c) 1.205×10^{23} atoms   (d) 1.205×10^{26} atoms

24. Mesophyll is a modified parenchyma, which is chiefly concerned with
    (a) Coloration of fruits   (b) Cellular motion
    (c) Food storage in plants   (d) Photosynthesis

25. In triangle ABC, if AB = BC and $\angle B = 70°$, $\angle A$ will be :
    (a) 70°   (b) 110°   (c) 55°   (d) 130°

26. **Assertion (A) :** Properties of a compound are same as its constituent elements.
    Reason (R) : A compound is a substance composed of two or more different types of elements.
    (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.

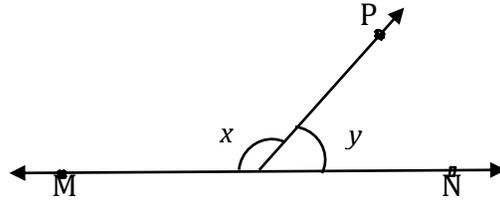## Section – II (More than One Correct answer)

27. In the arrangement shown below net gravitational force on mass m_0 is zero. Then, which of the following option is incorrect?

    (a) If $m_A = m_B$ then $r^2_A = r^2_B$ (b) If $m_A > m_B$ then $r^2_A > r^2_B$
    (c) If $m_A < m_B$ then $r^2_A > r^2_B$ (d) If $m_A < m_B$ then $r^2_A < r^2_B$

28. Identify the set which does not contain(s) atleast two heterogeneous mixtures.
    (a) Tincture of iodine, smoke, soda water, sponge
    (b) Milk, milk of magnesia, mud, milky glass
    (c) Milky glass, copper sulphate solution, air, salt solution
    (d) Soda water, fog, tincture of iodine, milk

29. Which of the following tissues helps in the transport of water in plants?

(a) Phloem (b) Parenchyma
(c) Xylem (d) Collenchyma

30. In the given figure, MON is a straight line. If x is greater than eight-fifth of a right angle, then which of the following options is correct?

(a) $y = 36°$ (b) $y < 36°$ (c) $x < 144°$ (d) $y = 40°$

Section – II (Single Correct Answer)
(Mental Ability)

31. Find the odd one out from the given pairs.
(a) 5:15 (b) 24:70 (c) 33:99 (d) 121:363

32. One morning after sunrise, Nandita and Ravi were sitting in a lawn with their backs towards each other. Nandita's shadow fell exactly towards her left-hand side. Which direction was Ravi facing?
(a) East (b) West (c) North (d) South

33. There are 64 history books arranged in a row at central library Bangalore. Ancient history is 25th from the left side of the row and Medieval history is 30th from the right side of the row. What is the total number of books between Ancient and Medieval history?
(a) 6 (b) 7 (c) 8 (d) 9

34. **Statement :** Divya was advised by the Doctor that she should not take part in the dance competition.
Assumption I : The Doctor did not want Divya to take part in the competition because he was afraid that she might lose.
Assumption II : Divya had major surgery because of her injury.
Assumption III : Divya did not have the money to go for the auditions.
(a) All Assumption I, II and III follow
(b) Only Assumption I follows
(c) Assumption II follows but Assumption I and III do not follow
(d) None of the three assumptions follow

35. If 2%3 = 24, 3%4 = 48, 7%9 = 255 and 1%3 = 15, then which of the following is also correct?
(a) 4%5 = 82 (b) 9%2 = 122 (c) 3%5 = 63 (d) 9%3 = 145

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
(b)	(d)	(c)	(b)	(c)	(a)	(d)	(d)	(b)	(c)
11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
(c)	(d)	(b)	(d)	(c)	(b)	(a)	(d)	(a)	(c)
21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
(b)	(a)	(b)	(d)	(c)	(d)	(c)	(c)	(c)	(b)
31.	32.	33.	34.	35.					
(b)	(d)	(d)	(c)	(c)					