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Class 10th — Syllabus & Sample Questions

Chemical Reactions and Equations, Acids, Bases and Salts, Metals and Non-metals, Carbon and its Compounds, Periodic Classification of elements, Life Processes, Control and Coordination, Reproduction, Heredity and Evolution, Light - Reflection and refraction, Electricity, Magnetic Effects of Electric current, Sources of Energy, Our Environment, Natural Resources, Number System, Polynomials, Linear Equation, Quadratic Equation, Arithmetic Progression, Coordinate Geometry, Statistics, Trigonometry, Circles, Triangles, Probability, Sequence and Series, Mensuration, Applied Mathematics Analogy, Blood Relation, Classification, Coding Decoding, Direction Test , Letter Series, Mixed Series , Non Verbal ,Number Series & Syllogism.

The actual question paper contains 50 questions. The duration of the test paper is 60 minutes.

1. **Which one of the following sex chromosome is responsible for male child?**

   (A) XX

   (B) XY

   (C) YY

   (D) All of these

   (E) None of these

2. **Which one of the following is the balanced equation?**

   (A) $2NH_3 \rightarrow N_2 + H_2$

   (B) $NH_3 \rightarrow N_2 + 3H_2$

   (C) $2NH_3 \rightarrow 1/2N_2 + 3H_2$

   (D) $2NH_3 \rightarrow N_2 + 3H_2$

   (E) None of these

3. **A current of 0.896 A is flowing when the battery is connected in series with resistors of 0.2 ohm, 0.3 ohm, 0.4 ohm, 0.5 ohm and 12 ohm. Find the potential difference produced by the battery.**

   (A) 10 V   (B) 15 V

   (C) 12 V   (D) 20 V

   (E) None of these

4. **Which one of the following organisms can live without oxygen?**

   (A) Amoeba

   (B) Leech

   (C) Sheep

   (D) Yeast

   (E) None of these

5. **A cross between two individuals results in a ratio of 9:3:3:1 for four possible phenotypes of progeny. This is an example of:**

   (A) Monohybrid Cross

   (B) Dihybrid Cross

   (C) Test Cross

   (D) Second Generation Cross

   (E) None of these

6. **If P(n) denotes the number of prime numbers less than n, then find the value of P(P(P(35))), considering 1 as not a prime number.**

   (A) 0

   (B) 1

   (C) 2

   (D) 3

   (E) None of these

7. If the roots of the equation $ax^2 + bx + b = 0$ are in the ratio m : n, then the value of $\sqrt{\dfrac{m}{n}} + \sqrt{\dfrac{n}{m}} + \sqrt{\dfrac{b}{a}}$ is equal to:

(A) 0   (B) 1

(C) 2   (D) 4

(E) None of these

8. Find the smallest number which when increased by 17 is exactly divisible by both 520 and 468?

(A) 4680   (B) 4650

(C) 4663   (D) 4636

(E) None of these

9. A chord of a circle of radius 14 cm makes a right angle at the centre. Find the area of the major segment of the circle.

(A) 590 cm²   (B) 560 cm²

(C) 595 cm²   (D) 995 cm²

(E) None of these

10. The value of $\dfrac{\sin^2 45° + \cos^2 45°}{\sin^2 30°}$ is:

(A) $\dfrac{1}{2}$ (B) $\dfrac{1}{4}$

(C) 4   (D) 1

(E) None of these

11. In a certain coding system, 'rbm std bro pus' means 'the cat is beautiful', 'tnh pus dim std', means 'the dog is brown', 'pus dim bro pus cus' means 'the dog has the cat'. What is the code for 'has'?

(A) std

(B) dim

(C) bro

(D) cus

(E) None of these

12. In this question, two statements followed by two conclusions, numbered I and II, are given. You have to take the two given statements as 'true' even if they seem to be at variance from commonly known facts and then decide which one of the conclusions logically follows from the two given statements.

Statements:

I. All planes are birds.

II. All birds are clouds.

Conclusions:

I. Some planes are clouds.

II. Some clouds are birds.

(A) Only I follows

(B) Only II follows

(C) Neither I nor II follows

(D) Both I and II follow

(E) None of these

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Answers

1.	(B)	2.	(D)	3.	(C)	4.	(D)	5.	(B)	6.	(C)
7.	(A)	8.	(C)	9.	(B)	10.	(C)	11.	(D)	12.	(D)