



General Instructions

- (i) Duration of the exam is 90 minutes.
- (ii) This question paper consists of 90 questions.
- (iii) Question Paper is divided into 3 sections- Physics, Chemistry and Mathematics or Biology having 30 questions each.
- (iv) Each question carries 1 mark and there is negative marking of 1/3 for every incorrect answer.

BIOLOGY

1. Oxytocin and Vasopressin are secreted by:

- (A) Anterior pituitary
- (B) Posterior pituitary
- (C) Hypothalamus
- (D) Adrenal gland

2. The outer layer of Dicot root is called:

- (A) Epidermis
- (B) Endodermis
- (C) Pericycle
- (D) Cortex

3. The notch of kidney where vessels enter is called:

- (A) Hilum
 - (B) Pelvis
 - (C) Calyx
 - (D) Ureter
-

4. Who is called the Father of Ecology in India?

- (A) Ramdeo Misra
 - (B) S. P. Singh
 - (C) Salim Ali
 - (D) M. S. Swaminathan
-

5. Which animal was not Uricotelic?

- (A) Birds
 - (B) Land snail
 - (C) Reptiles
 - (D) Adult Frog
-

6. Which bacteria converts nitrite to nitrate?

- (A) Nitrosomonas
 - (B) Nitrobacter
 - (C) Rhizobium
 - (D) Azotobacter
-

7. What is the function of Tapetum?

- (A) Provides nourishment to pollen grains
 - (B) Protects the ovule
 - (C) Helps in fertilization
 - (D) Produces pollen grains
-

8. Which of the following is NOT a stop codon?

- (A) UAA
 - (B) UAG
 - (C) UGA
 - (D) AUG
-

9. How many bones are found in the forelimb?

- (A) 30
 - (B) 32
 - (C) 34
 - (D) 36
-

10. The Environment Protection Act was launched in India in which year?

- (A) 1972
 - (B) 1980
 - (C) 1986
 - (D) 1990
-

CHEMISTRY

11. The bond order of Li is _____ and it is _____.

- (A) 1, diamagnetic
 - (B) 2, paramagnetic
 - (C) 1, paramagnetic
 - (D) 2, diamagnetic
-

12. The oxidation state of Cr in KCrO is:

- (A) +4
 - (B) +5
 - (C) +6
 - (D) +7
-

13. The oxidation states of carbon in CH and CCl respectively are:

- (A) -4 and +4
 - (B) +4 and -4
 - (C) -4 and -4
 - (D) +4 and +4
-

14. Which of the following statements is correct about Hg?

- (A) Hg is paramagnetic
 - (B) Hg is diamagnetic
 - (C) Hg is ferromagnetic
 - (D) Hg has unpaired electrons
-

15. If 32 g of methane reacts completely with oxygen, how much water is produced? ($\text{CH} = 16 \text{ g/mol}$, $\text{HO} = 18 \text{ g/mol}$)

- (A) 36 g
- (B) 54 g
- (C) 72 g

(D) 18 g

PHYSICS

16. A spherical ball of radius r falls through a viscous liquid. If the radius is doubled, the terminal velocity becomes:

- (A) Same
 - (B) 2 times
 - (C) 4 times
 - (D) 8 times
-

17. The linear mass density of a stretched string is μ and tension is T . The wave velocity is:

- (A) $\sqrt{T/\mu}$
 - (B) $\sqrt{\mu/T}$
 - (C) T/μ
 - (D) μ/T
-

18. The dimensional formula of magnetic field B is:

- (A) $[M^1 L T^2 A^1]$
 - (B) $[M^1 L^2 T^2 A^1]$
 - (C) $[M^1 T^2 A^1]$
 - (D) $[M^1 L T^1 A^1]$
-

19. If the temperature of a black body is doubled, the wavelength of maximum emission:

- (A) Doubles
- (B) Halves

- (C) Becomes 4 times
 - (D) Remains same
-

20. The correct increasing order of wavelength for UV, Visible light, and Microwaves is:

- (A) $UV < Visible < Microwaves$
 - (B) $Microwaves < Visible < UV$
 - (C) $Visible < UV < Microwaves$
 - (D) $UV < Microwaves < Visible$
-