VITEEE 2026 April 28 Shift 2

Question Paper

Conducted by VIT Vellore

General Instructions

(i) **Duration:** The total duration of the examination is 2.5 hours (150 minutes).

(ii) **Total Marks:** The complete paper carries a maximum of 500 marks.

(iii) **Structure:** The paper has 4 Sections:

- **Part 1:** 35 Multiple Choice Questions (Physics).
- **Part 2:** 35 Multiple Choice Questions (Chemistry).
- **Part 3:** 40 Multiple Choice Questions (Mathematics/Biology).
- **Part 4:** 10 Multiple Choice Questions (Aptitude).
- **Part 4:** 5 Multiple Choice Questions (English)

(iv) **Compulsory Questions:** All 125 questions are compulsory.

(v) Each question has four options. Only **one** option is correct.

(vi) **Correct Answer:** +4 marks.

(vii) **Incorrect Answer:** -1 (Negative marking).

(viii) **Unanswered/Marked for Review:** 0 marks.

1. Find the value of k if the lines

$$\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4}$$

and

$$\frac{x-4}{5}=\frac{y-1}{2}=\frac{z}{k}$$

are coplanar.

(A) 0

(B) 1

(C) -1

(D) 2

---

2. If A is a square matrix of order 3 such that $|adjA| = 64$, then find the value of $|A|$.

(A) 4

(B) ± 4

(C) 8

(D) ± 8

---

3. Evaluate the integral

$$\int_0^{\pi/2} \frac{\sin x}{\sin x + \cos x}\, dx.$$

(A) $\frac{\pi}{6}$

(B) $\frac{\pi}{4}$

(C) $\frac{\pi}{3}$

(D) $\frac{\pi}{2}$

---

4. Find the area of the region bounded by the curve $y^2 = 4x$ and the line $x = 3$.

(A) $4\sqrt{3}$ sq. units

(B) $6\sqrt{3}$ sq. units

(C) $8\sqrt{3}$ sq. units

(D) $12\sqrt{3}$ sq. units

---

5. If the sum of the first n terms of an A.P. is $S_n = 3n^2 + 5n$, find the 10^{th} term.

(A) 60

(B) 61

(C) 62

(D) 63

---

6. Calculate the equivalent resistance between two diametrically opposite points of a circular wire of total resistance $12\,\Omega$.

(A) $2\,\Omega$

(B) $3\,\Omega$

(C) $4\,\Omega$

(D) $6\,\Omega$

---

7. A capacitor of $10\,\mu F$ is charged to $50\,V$. Calculate the energy stored in the capacitor.

(A) $0.00125\,J$

(B) $0.0125\,J$

(C) $0.125\,J$

(D) $1.25\,J$

---

8. If the speed of light in a medium is 2×10^8 m/s, what is the refractive index of the medium?

(A) 1.2

(B) 1.3

(C) 1.5

(D) 2

---

9. A proton ($q = 1.6 \times 10^{-19}\,C$) enters a magnetic field of $2\,T$ with a velocity of 3×10^6 m/s perpendicular to the field. Find the magnetic force acting on the proton.

(A) $9.6 \times 10^{-14}\,N$

(B) $9.6 \times 10^{-13}\,N$

(C) $9.6 \times 10^{-12}\,N$

(D) $9.6 \times 10^{-11}\,N$

---

10. Determine the de Broglie wavelength of an electron accelerated through $100\,V$.

(A) $0.1227\,Å$

(B) $1.227\,Å$

(C) $12.27\,Å$

(D) $0.01227\,Å$

---

11. Which compound undergoes Cannizzaro reaction: Formaldehyde, Acetaldehyde, or Benzophenone?

(A) Formaldehyde

(B) Acetaldehyde

(C) Benzophenone

(D) Both (A) and (B)

---

12. What is the coordination number of Fe in the complex $[Fe(C_2O_4)_3]^{3-}$?

(A) 3

(B) 4

(C) 6

(D) 9

---

13. Calculate the pH of a $0.01\,M$ HCl solution.

(A) 1

(B) 2

(C) 3

(D) 4

---

14. Identify the monomers for Nylon-6,6.

(A) Adipic acid and Hexamethylenediamine

(B) Ethylene glycol and Terephthalic acid

(C) Styrene

(D) Caprolactam

15. Which group contains the most electronegative elements in the periodic table?

(A) Group 1

(B) Group 2

(C) Group 16

(D) Group 17

---

16. If 'FRIEND' is coded as 'HUMJTK', how is 'CANDLE' coded?

(A) EDRIRJ

(B) EDRJRI

(C) FESJRL

(D) DCRHQI

---

17. A man walks 5 km East, then turns right and walks 4 km, and then turns left and walks 5 km. In which direction is he finally moving?

(A) North

(B) South

(C) East

(D) West

---

18. Find the missing number in the series: $2, 6, 12, 20, 30, ?$

(A) 38

(B) 40

(C) 42

(D) 44

---

19. Choose the synonym of the word 'ABANDON'.

(A) Retain

(B) Forsake

(C) Protect

(D) Defend

---

20. Fill in the blank: Neither of the two candidates _____ qualified.

(A) are

(B) were

(C) is

(D) have
