

Entrance Test (Sample Question Paper) Session 2026-27

10+2 (Non-Medical)

[Section - A (Physics)]

Time : 30 min.

Max. Marks - 15

[Section - A (5×1=5)]

1. Write dimensional formula of coefficient of viscosity.
2. State Newton's 2nd law of motion.
3. Write the relation between g & G .
4. Define elasticity.
5. Write Newton's formula for speed of sound.

[Section - B (5×2=10)]

6. What is escape speed? Write its value on the surface of earth.
7. Derive relation $F = 6\pi\eta r v$. Using dimensional analysis.
8. Define isothermal and adiabatic processes.
9. If $\vec{A} = 2\hat{i} + 4\hat{j} - \hat{k}$ and $\vec{B} = 3\hat{i} + 2\hat{j} + \hat{k}$ find $\vec{A} \times \vec{B}$.
10. Write work Energy Theorem.

[Section - B (Chemistry)]

Time : 30 min.

Max. Marks - 15

- | | | |
|----|---|-----|
| 1. | Define Limiting Reagent. | [1] |
| 2. | Define wavelength. Give its unit. | [1] |
| 3. | Write the general electronic configuration of p-block elements. | [1] |
| 4. | Define co-ordinate bond with example. | [1] |
| 5. | What is an isothermal process? | [1] |
| 6. | a) Find the oxidation number of Mn in KMnO_4 . | [1] |
| | b) Give one difference between valency and oxidation number. | [1] |

7. **a)** Friedal Craft Alkylolation. [1]
- b)** Wurtz reaction. [1]
- c)** Derive the relationship between K_p & K_c . [2]
8. **a)** State and explain Hess's law. [2]
- b)** Explain different types of hydrogen bonds with example. [2]

[Section - C (Maths)]

Time : 30 min.

Max. Marks - 15

[Section - A] [5×1=5]

1. If $X = \{a, b, c, d\}$ and $Y = \{f, b, d, g\}$ find $Y - X$.
2. Find the value of $\cot^2 \frac{\pi}{6} + \operatorname{cosec} \frac{5\pi}{6} + 3 \tan^2 \frac{\pi}{6}$.
3. Write a + ib form of $3(7 + i7) + i(7 + i7)$.
4. If $n_{c_2} = n_{c_8}$ find n_{c_2} .
5. What is the derivative of $\operatorname{Cosec} x$ wrt x .

[Section - B] [5×2=10]

6. Using Binomial Theorem evaluate $(\sqrt{3} + \sqrt{2})^4 - (\sqrt{3} - \sqrt{2})^4$.
7. How many terms of aGP $3, 3^2, 3^3, \dots$ are needed to guive the sum 120.
8. Evaluated : $\lim_{x \rightarrow 4} \frac{4x^2 + 3x}{x^2 - 2x}$.
9. If $P(A) = \frac{2}{11}$ find P (not A).
10. If $y = (ax + b)^n$, find $\frac{dy}{dx}$.

[Section - D (English)]

Time : 30 min.

Max. Marks - 15

Q1. Read the passage given below and answer the questions that follow: (5)

A 92 year -old lady, who is fully dressed each morning by eight o'clock with perfect make-up, even though she is blind, moved to an old age home. Her husband recently passed away. She didn't even have children. After many hours of waiting patiently in the lobby she smiled sweetly when she was ready. She was provided a visual description of her tiny room. "I love it," stated with the enthusiasm of an eight-year-old having just been presented with a new puppy.

"But.....but Mrs. Jones, you haven't seen the room, "said the attendant. "That doesn't have anything to do with it," she replied. "Happiness is something you decide, I have already decided to love it. It's a decision I make every morning I wake up. I can spend the day in bed, recounting the difficulty I have with the parts of my body that don't work. , or get out of bed and be thankful for the ones that do. Each day is a gift, and as long as I am alive I'll focus on the new day and all the happy memories I've stored away, just for this time in my life. 'The attendant was touched by the elderly woman's sense of cheer and boundless enthusiasm.

Answer the following questions:

1. Why did the old woman move to an old age home?
2. How did she react when the attendant gave a description of the room she had to live in?
3. What resolution did she make when she woke up every morning?
4. What does the story tell about the old woman?
5. Find the antonym of the following words from the passage :-
 (a) Whole
 (b) Dead

Q2. Write a paragraph on any of the following topics: (5)

- (a) Importance of Outdoor Games
- (b) Rising Pollution and Measures to Check It
- (c) My First Day at the New School

Q3. Do as directed: (10×½=5)

- (a) I have apples. (Use Determiner)
- (b) day and way you should become better and better. (Use Determiner)
- (c) I have not (see) him since 1999. (Use correct form of Verb given in the bracket)
- (d) He thanked me for what I(do). (Use correct form of Verb given in the bracket)
- (e) All the boys and girls take part in the rehearsal. (Use appropriate Modal verb)
- (f) He asked me if Ihelp him. (Use appropriate Modal verb)
- (g) He is a doctor. He is my friend. (Change into a complex sentence)
- (h) Alms was given to the poor. (Correct the statement)
- (i) All the sisters-in-law are married. (Correct the statement)
- (j) You will effect work over. (Re-arrange the words to make a meaningful sentence)