

BITSAT 2025 June 24 Shift 2 Question Paper

Time Allowed :3 Hours	Maximum Marks :390	Total questions :130
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. Duration of Exam: 3 Hours
2. Total Number of Questions: 130 Questions
3. Section-wise Distribution of Questions:
 - Physics - 40 Questions
 - Chemistry - 40 Questions
 - Mathematics - 50 Questions
4. Type of Questions: Multiple Choice Questions (Objective)
5. Marking Scheme: Three marks are awarded for each correct response
6. Negative Marking: One mark is deducted for every incorrect answer.
7. Each question has four options; only one is correct.
8. Questions are designed to test analytical thinking and problem-solving skills.

1. A block of mass 5 kg is placed on a frictionless surface and a force of 20 N is applied horizontally. What is the acceleration of the block?

- (1) 4 m/s^2
 - (2) 2 m/s^2
 - (3) 5 m/s^2
 - (4) 10 m/s^2
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2. What is the pH of a 0.01 M solution of HCl?

- (1) 1
 - (2) 2
 - (3) 3
 - (4) 4
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3. Find the derivative of $y = \sin(x^2)$ with respect to x .

- (1) $\cos(x^2)$
 - (2) $2x \cos(x^2)$
 - (3) $\sin(x^2) \cdot 2x$
 - (4) $\cos(x^2) \cdot x$
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4. The equivalent resistance between points A and B in a circuit with two resistors of 6Ω each connected in parallel is:

- (1) 12Ω
 - (2) 6Ω
 - (3) 3Ω
 - (4) 4Ω
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5. What is the IUPAC name of $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$?

- (1) Propan-1-ol
 - (2) Propan-2-ol
 - (3) Ethanol
 - (4) Butan-2-ol
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6. A simple pendulum has a time period of 2 s on Earth's surface. What is its time period at a height equal to the Earth's radius (R)? (Acceleration due to gravity at height h is $g_h = \frac{g}{(1+h/R)^2}$).

- (1) 2 s
 - (2) $2\sqrt{2}$ s
 - (3) 4 s
 - (4) $\sqrt{2}$ s
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7. Solve for x: $\log_{10}(x^2) = 2$.

- (1) 10
 - (2) 100
 - (3) ± 10
 - (4) ± 100
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8. Choose the word most opposite in meaning to "Candid":

- (1) Honest
 - (2) Deceptive
 - (3) Frank
 - (4) Sincere
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9. In a certain code, "CAT" is written as "DBU." How is "DOG" written in that code?

- (1) EPH
 - (2) FQI
 - (3) EQH
 - (4) FPH
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10. The work done by a gas during an isothermal expansion from 2 L to 4 L at a constant temperature, with pressure initially at 2 atm, is: (Use $R = 8.314 \text{ J/mol}\cdot\text{K}$, $T = 300 \text{ K}$).

- (1) 281 J
 - (2) 831.4 J
 - (3) 1247.1 J
 - (4) 1662.8 J
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