

BITSAT 2025 June 24 Shift 2 Question Paper

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

1. The **BITSAT 2025** (Birla Institute of Technology and Science Admission Test) is conducted in **Computer-Based Test (CBT)** mode.
2. The duration of the test is **3 hours (180 minutes)**.
3. The question paper consists of **130 multiple-choice questions (MCQs)** divided into four sections:
 - **Physics – 30 Questions**
 - **Chemistry – 30 Questions**
 - **English Proficiency and Logical Reasoning – 20 Questions**
 - **Mathematics/Biology – 50 Questions**
4. Each correct answer carries **3 marks**, and each incorrect answer leads to a **penalty of 1 mark**.
5. After attempting all 130 questions, candidates can attempt up to **12 additional questions** (4 each from Physics, Chemistry, and Mathematics/Biology) — only if time permits.
6. The language of the question paper is **English only**.
7. Candidates must reach the test center **at least 1 hour before** the commencement of the examination.
8. Candidates must carry:
 - **BITSAT 2025 Hall Ticket**
 - **Valid Photo ID Proof** (Aadhaar, Passport, PAN, Driving Licence, etc.)
9. Rough work must be done only on the provided sheets. Additional sheets will not be supplied.
10. Use of **calculators, mobile phones, smart watches, or any other electronic devices** is strictly prohibited.
11. Follow all **invigilator's instructions** carefully. Any malpractice will result in **cancellation of candidature**.

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?

- (A) 4 m/s^2
 - (B) 2 m/s^2
 - (C) 5 m/s^2
 - (D) 10 m/s^2
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2. What is the pH of a 0.01 M solution of HCl?

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

- (A) $\cos(x^2)$
 - (B) $2x \cos(x^2)$
 - (C) $\sin(x^2) \cdot 2x$
 - (D) $\cos(x^2) \cdot x$
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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:

- (A) 12Ω
 - (B) 6Ω
 - (C) 3Ω
 - (D) 4Ω
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5. What is the IUPAC name of $\text{CHCH}(\text{OH})\text{CH}$?

- (A) Propan-1-ol
 - (B) Propan-2-ol
 - (C) Ethanol
 - (D) 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 $g_h = g/(1 + h/R)^2$).

- (A) 2 s
- (B) $2\sqrt{2}$ s
- (C) 4 s
- (D) $\sqrt{2}$ s

7. Solve for x: $\log_{10}(x^2) = 2$.

- (A) 10
- (B) 100
- (C) ± 10
- (D) ± 100

8. Choose the word most opposite in meaning to "Candid":

- (A) Honest
- (B) Deceptive
- (C) Frank
- (D) Sincere

9. In a certain code, "CAT" is written as "DBU." How is "DOG" written in that code?

- (A) EPH
- (B) FQI
- (C) EQH
- (D) FPH

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 $R = 8.314$ J/mol·K, $T = 300$ K).

- (A) 281 J
 - (B) 831.4 J
 - (C) 1247.1 J
 - (D) 1662.8 J
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