

GATE 2026 XE Question Paper with Solutions

Time Allowed :3 Hour	Maximum Marks :100	Total Questions :65
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General Instructions

Please read the following instructions carefully:

- This question paper is divided into three sections:
 - General Aptitude (GA):** 10 questions (5 questions \times 1 mark + 5 questions \times 2 marks) for a total of 15 marks.
 - Environmental Science and Engineering + Engineering Mathematics:**
 - Part A (Mandatory):** 36 questions (1 questions \times 1 mark + 19 questions \times 2 marks) for a total of 55 marks.
 - Part B (Section 1):** Candidates can choose either Part B1 (Surveying and Mapping) or Part B2 (Section 2). Each part contains 16 questions (8 questions \times 1 mark + 11 questions \times 2 marks) for a total of 30 marks.
- The total number of questions is **65**, carrying a maximum of **100 marks**.
- The duration of the exam is **3 hours**.
- Marking scheme:
 - For 1-mark MCQs, $\frac{1}{3}$ mark will be deducted for every incorrect response.
 - For 2-mark MCQs, $\frac{2}{3}$ mark will be deducted for every incorrect response.
 - No negative marking for numerical answer type (NAT) questions.
 - No marks will be awarded for unanswered questions.
- Ensure you attempt questions only from the optional section (Part B1 or Part B2) you have selected.
- Follow the instructions provided during the exam for submitting your answers.

1. The value of the determinant

$$\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix}$$

is:

- (A) -2
- (B) 2
- (C) -5
- (D) 5

2. Hooke's law is valid up to:

- (A) Breaking point
 - (B) Yield point
 - (C) Elastic limit
 - (D) Ultimate stress
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3. Which dimensionless number represents the ratio of inertial forces to viscous forces?

- (A) Reynolds number
 - (B) Froude number
 - (C) Mach number
 - (D) Weber number
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4. For an ideal gas undergoing an isothermal process, which of the following remains constant?

- (A) Pressure
 - (B) Temperature
 - (C) Volume
 - (D) Entropy
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5. Which crystal structure is exhibited by body-centered cubic (BCC) metals?

- (A) Iron (α -Fe)
 - (B) Copper
 - (C) Aluminum
 - (D) Nickel
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6. The Poisson's ratio for an incompressible material is:

- (A) 0
- (B) 0.25
- (C) 0.33
- (D) 0.5

7. The mode of heat transfer which does not require a material medium is:

- (A) Conduction
 - (B) Convection
 - (C) Radiation
 - (D) Diffusion
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