CUET PG 2026 Geophysics Question Paper(Memory Based)

Time Allowed :1 Hours 30 min	**Maximum Marks :**300	**Total Questions :**75

General Instructions

1. The exam lasts 90 minutes (1 hour 30 minutes).
2. There are 75 Multiple Choice Questions (MCQs) to be answered.
3. +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
4. For any discrepancy in questions, the English version is considered final (except for language-specific papers).
5. Click one of the four options to choose an answer.
6. You must click "Save & Next" to confirm your response. Only saved answers are considered for evaluation.
7. Use "Mark for Review & Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
8. All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

1. What is the shape of the air film formed in the Newton's ring experiment?
(A) Plane
(B) Cylindrical
(C) Spherical
(D) Wedge-shaped

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2. Which Maxwell's equation represents Gauss's Law in Magnetostatics?
(A) $\nabla \cdot \mathbf{E} = \frac{\rho}{\varepsilon_0}$
(B) $\nabla \cdot \mathbf{B} = 0$
(C) $\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$
(D) $\nabla \times \mathbf{B} = \mu_0 \mathbf{J}$

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3. Calculate the efficiency of a Carnot engine operating between the steam point (373 K) and ice point (273 K).
(A) 26.8%
(B) 36.8%
(C) 46.8%
(D) 56.8%

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4. What is the Compton shift for a photon backscattered at 180 degrees?
(A) $\frac{h}{mc}$
(B) $\frac{2h}{mc}$
(C) $\frac{h}{2mc}$
(D) 0

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5. For a series LCR circuit, what is the formula for the phase angle between current and emf?
(A) $\tan\phi = \frac{X_L - X_C}{R}$
(B) $\tan\phi = \frac{R}{X_L - X_C}$
(C) $\sin\phi = \frac{X_L - X_C}{R}$
(D) $\cos\phi = \frac{X_L - X_C}{R}$

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6. According to Wien's displacement law, how is the surface temperature of a star related to its maximum intensity wavelength?
(A) $\lambda_{\max} \propto T$
(B) $\lambda_{\max} \propto \frac{1}{T}$
(C) $\lambda_{\max} \propto T^2$
(D) $\lambda_{\max} \propto \frac{1}{T^2}$

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7. Which thermodynamic process must occur "infinitesimally slowly" to remain reversible?
(A) Isothermal process
(B) Adiabatic process
(C) Quasi-static process
(D) Isochoric process

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8. What is the relation between the polarizing angle and the refractive index in Brewster's Law?
(A) $\mu = \sin\theta_p$
(B) $\mu = \cos\theta_p$
(C) $\mu = \tan\theta_p$
(D) $\mu = \cot\theta_p$

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9. How does the orbital period of a satellite change as its distance from the Earth's center increases?
(A) $T \propto r$
(B) $T \propto r^2$

(C) $T \propto r^{3/2}$
(D) $T \propto \frac{1}{r}$

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10. In a P-N junction diode, which terminal is connected to the P-side during forward biasing?
(A) Negative terminal
(B) Positive terminal
(C) Ground
(D) Neutral terminal

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11. What is the quality factor (Q) of an LCR circuit defined in terms of resonant frequency and bandwidth?
(A) $Q = \frac{\text{Bandwidth}}{f_0}$
(B) $Q = \frac{f_0}{\text{Bandwidth}}$
(C) $Q = f_0 \times \text{Bandwidth}$
(D) $Q = \frac{1}{f_0 \times \text{Bandwidth}}$

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12. For a rolling solid sphere on an incline of 30°, what is its acceleration a in terms of gravity g?
(A) $\frac{g}{2}$
(B) $\frac{5g}{7}$
(C) $\frac{5g}{7} \sin 30^\circ$
(D) $\frac{2g}{7} \sin 30^\circ$
