CUET PG 2026 Electronics and Communication Engineering 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 Thevenin equivalent voltage across a load in an open-circuited network?
(A) Short-circuit current
(B) Open-circuit voltage
(C) Load voltage
(D) Internal resistance

2. Which semiconductor device is primarily used as a voltage regulator?
(A) LED
(B) Zener diode
(C) Photodiode
(D) Transistor

1. Calculate the Nyquist rate for a signal with a maximum frequency component of 5 kHz.
(A) 5 kHz
(B) 10 kHz
(C) 2.5 kHz
(D) 20 kHz

2. How many flip-flops are required to build a MOD-16 counter?
(A) 2
(B) 3
(C) 4
(D) 5

3. Which type of power amplifier has the highest theoretical efficiency?
(A) Class A
(B) Class B
(C) Class AB
(D) Class C

4. In a Common Emitter (CE) configuration, what is the phase shift between input and output?
(A) 0°
(B) 90°
(C) 180°
(D) 270°

5. What is the relationship between the bandwidth and the Q-factor in a resonant circuit?
(A) $Q = BW$
(B) $Q = \dfrac{f_0}{BW}$
(C) $Q = BW^2$
(D) $Q = \dfrac{BW}{f_0}$

6. Which Maxwell's equation represents Faraday's Law of Induction?
(A) $\nabla \cdot \mathbf{E} = \dfrac{\rho}{\varepsilon_0}$
(B) $\nabla \cdot \mathbf{B} = 0$
(C) $\nabla \times \mathbf{E} = -\dfrac{\partial \mathbf{B}}{\partial t}$
(D) $\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \varepsilon_0 \dfrac{\partial \mathbf{E}}{\partial t}$

7. A MOSFET operates in the saturation region when the gate-to-source voltage exceeds what?

(A) Drain voltage
(B) Threshold voltage
(C) Source voltage
(D) Gate voltage

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8. What is the Z-transform of a unit impulse function $\delta[n]$?

(A) z

(B) $\dfrac{1}{z}$

(C) 1

(D) $\dfrac{1}{1 - z^{-1}}$

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9. Which modulation technique is more immune to noise: AM or FM?

(A) AM
(B) FM
(C) Both equally
(D) None

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10. In digital logic, what is the dual of the OR operation?

(A) NOT
(B) AND
(C) XOR
(D) NAND

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11. What is the characteristic impedance of a lossless transmission line?

(A) $\sqrt{\dfrac{R}{G}}$

(B) $\sqrt{\dfrac{L}{C}}$

(C) $\dfrac{R}{L}$

(D) $\dfrac{G}{C}$

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12. Which theorem is used to find the maximum power transferred to a complex load?

(A) Thevenin's Theorem
(B) Norton's Theorem
(C) Superposition Theorem
(D) Maximum Power Transfer Theorem

13. What is the CMRR (Common Mode Rejection Ratio) of an ideal Operational Amplifier?
(A) 0
(B) 1
(C) Infinite
(D) Very small