राष्ट्रीय प्रौद्योगिकी संस्थान वरंगल
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NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL
WARANGAL – 506004, Telangana, INDIA

QUESTION BOOKLET – ADVANCED TEST FOR RECRUITMENT TO TECHNICAL CADRE POSTS

Post:	Sr. Technician
Department	Physics
Advt.:	01/2026 dated 09.01.2026
Date of Exam:	24-08-2026
Duration:	2 Hours
Total Marks:	200 (100 Q X 2 M each)
No. of Questions:	100 (MCQs)
Negative Marking:	1/4th mark for every wrong answer

INSTRUCTIONS TO THE CANDIDATES

1. This is an Advanced Test comprising 100 Multiple Choice Questions (MCQs), to be conducted in MCQ mode only.
2. The duration of the test is 2 hours.
3. Answers must be marked on the OMR Answer Sheet using a blue or black ballpoint pen only. Use of pencils is not permitted.
4. Candidates must write/mark their Roll Number, Post applied for, and other required details in the designated space on the OMR Answer Sheet.
5. Answers marked on the Question Booklet or on any sheet other than the OMR Answer Sheet will not be evaluated.
6. For each question, darken the circle corresponding to the correct answer completely and clearly on the OMR Answer Sheet.
7. Each question carries equal marks. There will be a negative marking of ¼ th mark for every wrong answer. No marks will be deducted for questions not attempted.
8. Mark only one answer for each question. Marking more than one circle for a question will be treated as a wrong answer.
9. Overwriting, cutting, or erasing that leaves the OMR Answer Sheet unclear may result in the answer not being evaluated.
10. No candidate shall leave the examination hall during the test.
11. Any attempt to copy, use unfair means, or communicate with others will result in immediate disqualification.
12. The use of electronic gadgets, calculators, mobile phones, smart watches, or any written/printed material is strictly prohibited.
13. Rough work, if any, should be done only on the separate sheet provided for the purpose.
14. Ensure that the OMR Answer Sheet is duly filled and handed over to the Invigilator before leaving the examination hall.
15. Failure to submit the OMR Answer Sheet will result in cancellation of candidature.
16. All material provided, including rough sheets, must be returned before leaving the examination hall.

1. **What is the electric field (*E*) INSIDE a uniformly charged, thin, hollow spherical shell of radius *R*?**

   (A) $E = \frac{q}{4\pi\varepsilon_0 R^2}$

   (B) $E = 0$

   (C) $E = \frac{q}{4\pi\varepsilon_0 r}$

   (D) $E = \infty$

2. **What is the magnitude of the uniform electric field (*E*) near an infinite, thin, non-conducting plane sheet of charge having surface charge density σ?**

   (A) $E = \frac{\sigma}{\varepsilon_0}$

   (B) $E = \frac{\sigma}{2\varepsilon_0}$

   (C) $E = \frac{2\sigma}{\varepsilon_0}$

   (D) $E = \frac{\sigma}{4\pi\varepsilon_0}$

3. **Using Gauss's Law, what is the electric field (*E*) at a radial distance *r* from an infinitely long, straight, uniformly charged wire with linear charge density λ?**

   (A) $E = \frac{\lambda}{2\pi\varepsilon_0 r}$

   (B) $E = \frac{\lambda}{4\pi\varepsilon_0 r^2}$

   (C) $E = \frac{\lambda r}{2\varepsilon_0}$

   (D) $E = \frac{2\lambda}{\varepsilon_0 r^2}$

4. **According to Gauss's Law, what is the total electric flux (Φ_E) passing through any closed Gaussian surface enclosing a net charge q_{enclosed}?**

   (A) $\Phi_E = \varepsilon_0 \cdot q_{\text{enclosed}}$

   (B) $\Phi_E = \frac{q_{\text{enclosed}}}{\varepsilon_0}$

   (C) $\Phi_E = 0$ always

   (D) $\Phi_E = \frac{\varepsilon_0}{q_{\text{enclosed}}}$

5. **What is the SI unit of Electric Flux (Φ_E)?**

(A) $\mathrm{N \cdot m/C}$

(B) $\mathrm{N \cdot m^2/C}$ (or $\mathrm{V \cdot m}$)

(C) $\mathrm{C/m^2}$

(D) Weber

6. **What is the fundamental property of electric charge quantified by the principle of "Quantization of Charge"?**

(A) Charge can be created from energy
(B) Total charge is always an integral multiple of the elementary electron charge (e)
(C) Charge on a body changes with its speed
(D) Positive and negative charges cannot coexist

7. **What is the value of the electrostatic constant $k = \frac{1}{4\pi\varepsilon_0}$ in free space (SI units)?**

(A) $9 \times 10^9\ \mathrm{N \cdot m^2/C^2}$

(B) $8.85 \times 10^{-12}\ \mathrm{C^2/(N \cdot m^2)}$

(C) $1.6 \times 10^{-19}\ \mathrm{N \cdot m^2/C^2}$

(D) $3 \times 10^8\ \mathrm{N \cdot m^2/C^2}$

8. **If the distance (r) between two point charges is doubled, the electrostatic force between them becomes:**

(A) Doubled
(B) Halved
(C) One-fourth
(D) Four times

9. **What is the SI unit of surface charge density (σ)?**

(A) Coulomb per meter ($\mathrm{C/m}$)

(B) Coulomb per square meter ($\mathrm{C/m^2}$)

(C) Coulomb per cubic meter ($\mathrm{C/m^3}$)

(D) Coulomb-meter ($\mathrm{C \cdot m}$)

10. **When a glass rod is rubbed with silk cloth, the glass rod acquires a positive charge because:**
(A) It gains protons from silk
(B) It loses electrons to silk
(C) It loses protons to silk
(D) It gains neutrons from silk

11. **What is the SI unit of Electric Field Intensity (E)?**

(A) Newton per Coulomb (N/C) or Volt per meter (V/m)
(B) Joule per Coulomb (J/C)
(C) Coulomb per Volt (C/V)
(D) Newton-meter (N·m)

12. **Which of the following statements about electric field lines is FALSE?**

(A) They start from positive charges and end at negative charges
(B) They always form continuous closed loops
(C) Two field lines never cross each other
(D) Tangent at any point on a field line gives the direction of the electric field

13. **Why can two electric field lines never intersect each other?**
(A) Because they are always straight lines
(B) Because at the point of intersection, there would be two different directions of the resultant electric field, which is impossible
(C) Because they always repel each other
(D) Because they carry identical charges

14. **What is the SI unit of Electric Potential?**
(A) Ampere (A)
(B) Volt (V)
(C) Farad (F)
(D) Newton per Coulomb (N/C)

15. **How much work is done in moving a test charge q between any two points on an equipotential surface?**

(A) Maximum work
(B) Zero
(C) q·V
(D) Infinite

16. **What is the angle between electric field lines and an equipotential surface at any given point?**

(A) 0° (Parallel)

(B) 45°

(C) 90° (Perpendicular)

(D) 180°

17. **What is the electric potential (*V*) on the equatorial plane of an electric dipole?**
(A) Maximum positive
(B) Maximum negative
(C) Zero
(D) Dependent on the medium only

18. **Inside a charged hollow spherical conductor in electrostatic equilibrium, the electric field (*E*) and electric potential (*V*) are respectively:**
(A) E=0, and V is constant (equal to surface value)
(B) E is constant, and V=0
(C) Both E=0 and V=0
(D) Both E and V are infinite

19. **What happens to the capacitance of a parallel plate capacitor when a dielectric material of dielectric constant *K* fills the entire space between its plates?**
(A) Decreases by a factor of K
(B) Increases by a factor of K
(C) Remains unchanged
(D) Drops to zero

20. **If two capacitors of values 4 μF and 6 μF are connected in parallal, what is the total equivalent capacitance?**
(A) 2.4 μF
(B) 10 μF
(C) 24 μF
(D) 2 μF

21. **What is the total electrostatic energy (U) stored in a charged capacitor of capacitance C charged to a potential difference V?**
(A) $U = \frac{1}{2}CV^2$

(B) $U = CV$

(C) $U = \frac{1}{2}C^2V$

(D) $U = 2CV^2$

22. **If three capacitors of equal capacitance *C*=30 μF are connected in series, what is the equivalent capacitance of the combination?**
(A) 90 μF
(B) 10 μF
(C) 30 μF

(D) 0.1 μF

23. **Which of the following equations correctly relates electric current (*I*) to the drift velocity (v_d) of electrons in a metallic conductor?** *(Where n = electron density, e = charge of an electron, and A = cross-sectional area)*

(A) $I = \frac{neA}{v_d}$

(B) $I = neAv_d$

(C) $I = \frac{v_d}{neA}$

(D) $I = nev_d$

24. **Electron mobility (μ) in a conductive material is defined as:**
(A) Drift velocity per unit electric field (V_d/E)
(B) Electric field per unit drift velocity (E/ V_d)
(C) Current per unit area (I/A)
(D) Voltage per unit current (V/I)

25. **Which of the following components does NOT strictly obey Ohm's Law?**
(A) Pure copper wire
(B) Standard carbon resistor
(C) Semiconductor P-N junction diode
(D) Aluminum busbar

26. **The electrical resistivity (ρ) of a given metallic wire depends primarily upon:**
(A) Its length
(B) Its cross-sectional area
(C) The nature of the material and its temperature
(D) The amount of current flowing through it

27. **When a cell of Electromotive Force (*E*) and internal resistance (*r*) is discharging by supplying current (*I*) to an external load, its terminal potential difference (*V*) is:**
(A) V=E+Ir
(B) V=E
(C) V=E−Ir
(D) V=Ir

28. **What is the primary purpose of connecting multiple identical cells in a parallel combination?**
(A) To increase the total output voltage
(B) To increase the total current capacity
(C) To increase the total internal resistance
(D) To decrease the physical size of the battery pack

29. **Kirchhoff's First Rule (the Junction Rule or KCL) is a direct consequence of the law of conservation of:**

(A) Energy

(B) Momentum
(C) Mass
(D) Charge

30. **In a Wheatstone bridge network with four resistance arms *P*,*Q*,*R*, and *S*, what is the required condition for the bridge to be "balanced" (meaning no current flows through the galvanometer)?**
(A) $P + Q = R + S$
(B) $P \times Q = R \times S$
(C) $\frac{P}{Q} = \frac{R}{S}$
(D) $P - Q = R - S$

31. **Kirchhoff's Second Rule (the Loop Rule or KVL) is based on the conservation of:**
(A) Energy
(B) Charge
(C) Mass
(D) Magnetic flux

32. **What was the main conclusion of Oersted's experiment?**
(A) Electric field is produced by static charges
(B) A magnetic field is produced around a current-carrying conductor
(C) Light consists of electromagnetic waves
(D) Temperature affects electrical resistance

33. **According to the Biot-Savart Law, the magnetic field (*B*) at the center of a circular loop of radius *r* carrying current *I* is directly proportional to:**
(A) r^2
(B) I/r
(C) $I \cdot r$
(D) $1/I$

34. **What is the magnetic field (*B*) inside a long, ideal straight solenoid having *n* turns per unit length carrying current *I* ?**
(A) Zero
(B) $\mu_0 nI$
(C) $\frac{\mu_0 I}{2\pi r}$
(D) $\frac{\mu_0 nI}{2}$

35. **What is the magnetic force experienced by a charged particle q moving with velocity v parallel to a uniform magnetic field B?**
(A) qvB
(B) Zero
(C) $\frac{qv}{B}$
(D) Infinite

36. **When two long, parallel straight conductors carry currents in the SAME direction, the force between them is:**
(A) Repulsive
(B) Attractive
(C) Zero
(D) Rotational only

37. **What is the standard SI unit of Magnetic Dipole Moment (M)?**
(A) Tesla (T)
(B) Ampere-meter squared ($\mathrm{A \cdot m^2}$)
(C) Weber (Wb)
(D) Henry (H)

38. **How is a Moving Coil Galvanometer converted into an Ammeter?**
(A) By connecting a high resistance in series
(B) By connecting a low resistance (shunt) in parallel
(C) By connecting a capacitor in series
(D) By removing the permanent magnet

39. **Faraday's Second Law of Electromagnetic Induction states that the magnitude of induced EMF is equal to the:**
(A) Sum of magnetic flux and resistance
(B) Rate of change of magnetic flux linkage
(C) Total current flowing in the primary coil
(D) Self-inductance multiplied by frequency

40. **Lenz's Law is a direct consequence of the Law of Conservation of:**
(A) Charge
(B) Momentum
(C) Energy
(D) Mass

41. **What is the SI unit of Mutual Inductance (M)?**
(A) Weber (Wb)
(B) Tesla (T)
(C) Henry (H)
(D) Farad (F)

42. **If the number of turns (N) in a solenoid is doubled while its length remains unchanged, its self-inductance (L) becomes:**
    (A) Doubled
    (B) Halved
    (C) 4 times
    (D) 8 times
43. **The core of an electrical transformer is laminated primarily to reduce:**
    (A) Copper loss
    (B) Eddy current loss
    (C) Hysteresis loss
    (D) Stray capacitance
44. **What is the mutual inductance coefficient (k) for two coils that are perfectly magnetically coupled?**
    (A) k=0
    (B) k=0.5
    (C) k=1
    (D) k=∞
45. **What is the relation between RMS value (V_{rms}) and Peak value (V_m) of a pure sinusoidal AC voltage?**
    (A) $V_{\text{rms}} = 0.637\, V_m$
    (B) $V_{\text{rms}} = \frac{V_m}{\sqrt{2}} \approx 0.707\, V_n$
    (C) $V_{\text{rms}} = 1.414\, V_m$
    (D) $V_{\text{rms}} = 2\, V_m$
46. **What happens to the capacitive reactance (X_C) of an AC circuit when the supply frequency (f) is doubled?**
    (A) It doubles
    (B) It is halved
    (C) It quadruples
    (D) It remains unchanged
47. **In a purely inductive AC circuit, the current:**
    (A) Leads the voltage by 90°
    (B) Lags behind the voltage by 90°
    (C) Is in phase with the voltage
    (D) Lags behind the voltage by 180°
48. **At series electrical resonance in an LCR circuit, the circuit impedance (Z) is:**
    (A) Maximum and purely inductive
    (B) Minimum and purely resistive
    (C) Zero
    (D) Purely capacitive
49. **What is the power factor of a purely resistive AC circuit?**
    (A) 0 (Zero)
    (B) 0.5 lagging
    (C) 1.0 (Unity)

(D) 0.8 leading

50. **What is "Wattless Current" in an AC circuit?**
    (A) Current that flows only in DC circuits
    (B) Current flowing in a purely reactive circuit
    (C) Leakage current to earth
    (D) Current flowing through high-value resistors
51. **An AC generator operates on which fundamental principle?**
    (A) Electromagnetic Induction
    (B) Seebeck Effect
    (C) Joule's Heating Effect
    (D) Coulomb's Law
52. **What type of transformer has a turns ratio $N_2/N_1<1$?**
    (A) Step-up transformer
    (B) Step-down transformer
    (C) Isolation transformer
    (D) Auto-transformer only
53. **Who introduced the concept of "Displacement Current" to resolve the inconsistency in Ampere's Circuital Law?**
    (A) Heinrich Hertz
    (B) James Clerk Maxwell
    (C) Michael Faraday
    (D) Guglielmo Marconi
54. **The transverse nature of electromagnetic waves demonstrated by –**
    (A) Reflection
    (B) Refraction
    (C) Polarization
    (D) Interference
55. **In a vacuum, what is the propagation speed of all electromagnetic waves?**
    (A) 3×10^8 m/s
    (B) 330 m/s
    (C) 1.5×10^8 m/s
    (D) Infinite
56. **Which electromagnetic waves are used in RADAR systems and microwave ovens?**
    (A) X-rays
    (B) Microwaves
    (C) Ultraviolet rays
    (D) Gamma rays
57. **Which region of the electromagnetic spectrum is used for sterilizing surgical instruments and water purification?**
    (A) Infrared (IR) rays
    (B) Ultraviolet (UV) rays
    (C) Radio waves

(D) Visible light

58. **Which electromagnetic radiation has the highest frequency and shortest wavelength in the entire spectrum?**
    (A) Radio waves
    (B) Infrared rays
    (C) Gamma (γ) rays
    (D) X-rays
59. **What is the energy band gap (E_g) of a good conductor?**
    (A) Greater than 5 eV
    (B) Approximately 1 eV
    (C) Zero
    (D) Infinite

60. **What is the forbidden energy band gap (E_g) of pure Silicon (Si) at room temperature (300 K)?**
    (A) 0.7 eV
    (B) 1.1 eV
    (C) 0.3 eV
    (D) 6.0 eV
61. **At absolute zero temperature (0 K), an intrinsic (pure) semiconductor behaves as a/an:**
    (A) Perfect conductor
    (B) Perfect insulator
    (C) Superconductor
    (D) Amplifier
62. **How many valence electrons are present in the outermost shell of an intrinsic semiconductor atom?**
    (A) 2
    (B) 3
    (C) 4
    (D) 5

63. **Which element is added to a pure semiconductor as a pentavalent impurity to create an N-type semiconductor?**
    (A) Boron (B)
    (B) Indium (In)
    (C) Phosphorus (P)
    (D) Gallium (Ga)
64. **What are the majority charge carriers in a P-type semiconductor?**
    (A) Free electrons
    (B) Holes
    (C) Protons
    (D) Neutrons
65. **What is the overall electrical charge of an N-type semiconductor block?**
    (A) Negatively charged
    (B) Positively charged
    (C) Electrically neutral

(D) Dependent on the supply voltage

66. **Which of the following is a trivalent (acceptor) dopant?**
    (A) Antimony
    (B) Arsenic
    (C) Boron
    (D) Bismuth
67. **What is the primary cause for the formation of the depletion region at a P-N junction?**
    (A) Drift of minority carriers
    (B) Diffusion of majority carriers across the junction and subsequent recombination
    (C) Applying high AC voltage
    (D) High temperature alone
68. **What is the typical barrier potential (V_0) of a Silicon P-N junction diode at room temperature?**
    (A) 0.2 V–0.3 V
    (B) 0.6 V–0.7 V
    (C) 1.1 V–1.5 V
    (D) 2.0 V
69. **What happens to the width of the depletion layer when a P-N junction is reverse-biased?**
    (A) It increases
    (B) It decreases
    (C) It remains constant
    (D) It drops to zero
70. **In forward bias condition, the P-terminal of the diode is connected to the:**
    (A) Negative terminal of the DC supply
    (B) Positive terminal of the DC supply
    (C) Neutral point only
    (D) Earth directly
71. **What causes the tiny reverse saturation current (I_0) that flows through a reverse-biased diode?**
    (A) Majority carriers
    (B) Thermally generated minority carriers
    (C) High external capacitance
    (D) Secondary emission
72. **What is the "knee voltage" (cut-in voltage) on a diode's forward I-V characteristic curve?**
    (A) The voltage at which reverse breakdown occurs
    (B) The point beyond which forward current starts increasing rapidly and non-linearly becomes linear
    (C) The maximum peak inverse voltage
    (D) The voltage where resistance becomes infinite
73. **What is the main function of a rectifier circuit?**
    (A) Converts Direct Current (DC) to Alternating Current (AC)
    (B) Converts Alternating Current (AC) to pulsating Direct Current (DC)
    (C) Amplifies weak voltage signals

(D) Measures circuit current

74. **What is the maximum theoretical rectification efficiency (η) of a single-phase Half-Wave Rectifier?**
(A) 40.6%
(B) 50.0%
(C) 81.2%
(D) 100%
75. **How many diodes are required to construct a single-phase Full-Wave Bridge Rectifier?**
(A) 1
(B) 2
(C) 3
(D) 4
76. **If the input AC frequency to a full-wave center-tapped rectifier is 50 Hz, what will be the ripple frequency of the output DC?**
(A) 25 Hz
(B) 50 Hz
(C) 100 Hz
(D) 200 Hz
77. **What is Peak Inverse Voltage (PIV) rating of a diode?**
(A) The minimum voltage needed to turn the diode ON
(B) The maximum reverse voltage a diode can withstand without breaking down
(C) The average forward conduction voltage
(D) The supply voltage frequency
78. **Which of the following factors primarily determines the physiological severity of an electric shock?**
(A) Magnitude of current and duration of contact through the body
(B) Weight of the electrical appliance
(C) Color of the conductor insulation
(D) Atmospheric pressure
79. **What happens to human skin electrical resistance when the body is wet with perspiration or water?**
(A) Resistance increases significantly
(B) Resistance remains unchanged
(C) Resistance decreases drastically
(D) Resistance becomes infinite
80. **Which of the following is the most frequent direct cause of electrical accidents during routine domestic or industrial wiring?**
(A) Use of standard copper wire
(B) Lack of proper grounding and loose connections
(C) High ambient humidity alone
(D) Installing fuses with proper ratings
81. **What is the FIRST step you must take when you find a person in direct contact with a live electrical conductor?**
(A) Grab the victim by the hands and pull them away immediately
(B) Switch off the power supply / circuit breaker, or isolate using a dry non-conductive object

(C) Throw water over the victim to cool burns
(D) Begin chest compressions while the victim is still touching the wire

82. **In the "Schafer's Method" of artificial respiration, in what position is the patient placed?**
(A) Lying flat on the back (Supine position)
(B) Lying face down with the chest on the floor (Prone position)
(C) Sitting upright on a chair
(D) Lying on their side

83. **Before administering artificial respiration, why must you check and clear the victim's mouth and throat?**
(A) To check for missing teeth
(B) To remove foreign objects, vomit, or tongue blockages and ensure an open airway
(C) To pour water into the throat
(D) To administer oral pain medicine

84. **Why must WATER NEVER be used on an energized electrical fire?**
(A) Water makes the fire burn hotter
(B) Water is a conductor of electricity and can shock the firefighter
(C) Water evaporates too quickly
(D) Water destroys the plastic insulation permanently

85. **Which types of fire extinguishers are safest and most effective for extinguishing energized electrical panel fires?**
(A) Carbon Dioxide (CO_2) and Dry Chemical Powder (DCP)
(B) Pressurized Plain Water type
(C) Soda-Acid type
(D) Mechanical Foam type

86. **Which electrical condition is the most common cause of electrical fires in building installations?**
(A) Balanced three-phase load
(B) Overloading, short circuits, and loose sparking terminations
(C) Using double earthing systems
(D) Low power consumption

87. **What is the primary safety purpose of installing a Residual Current Circuit Breaker (RCCB) / Earth Leakage Circuit Breaker (ELCB)?**
(A) To measure energy consumption in kWh
(B) To trip the circuit automatically in case of current leakage to earth, preventing shocks and fire
(C) To step down 415 V to 230 V
(D) To stabilize supply frequency at 50 Hz

88. **What is the fundamental difference between an analog signal and a digital signal?**
(A) Analog signals have discrete voltage steps, while digital signals vary continuously
(B) Analog signals are continuous in time and amplitude, while digital signals use discrete levels
(C) Digital signals cannot be transmitted through cables
(D) Analog signals always use binary numbers

89. **What is the base (radix) of the Hexadecimal number system?**
(A) 2
(B) 8

(C) 10
(D) 16

90. **What is the binary equivalent of the decimal number $(13)_{10}$?**
(A) $(1101)_2$
(B) $(1011)_2$
(C) $(1110)_2$
(D) $(1001)_2$

91. **What is the hexadecimal equivalent of the 4-bit binary number $(1111)_2$?**
(A) E
(B) F
(C) 15
(D) A

92. **How many binary bits are grouped together to represent one Octal digit?**
(A) 2 bits
(B) 3 bits
(C) 4 bits
(D) 8 bits

93. **In Binary Coded Decimal (8421 BCD), how is the decimal number $(49)_{10}$ represented?**
(A) 01001001
(B) 110001
(C) 00110001
(D) 10010100

94. **How many bits are used in the standard (original) ASCII code to represent alphanumeric characters and control symbols?**
(A) 4 bits
(B) 7 bits
(C) 16 bits
(D) 32 bits

95. **Which logic gate produces a HIGH output (1) ONLY when ALL of its inputs are HIGH (1)?**
(A) OR gate
(B) AND gate
(C) NOR gate
(D) XOR gate

96. **Which two logic gates are known as "Universal Gates" because any Boolean logic function can be constructed using only them?**
(A) AND and OR
(B) NOT and OR
(C) NAND and NOR
(D) XOR and XNOR

97. **What is the output (Y) of a 2-input NOR gate when both inputs are LOW?**
(A) 0
(B) 1
(C) High impedance
(D) Undefined

98. **A 2-input Exclusive-OR (XOR) gate gives a HIGH output (1) when:**
(A) Both inputs are identical (0,0 or 1,1)
(B) Both inputs are different (0,1 or 1,0)
(C) Both inputs are 0 only
(D) Any input is 0

99. **What is the Boolean expression for an inverter with input *A*?**
(A) $Y = A$
(B) $Y = A + 1$
(C) $Y = \overline{A}$
(D) $Y = A \cdot A$

100. **Tangential component of electric field at dielectric conductor boundary**
(A) increases linearly
(B) decreases linearly
(C) becomes zero
(D) remains continuous

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