

**G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY (AT), KURNOOL.
(I B.Tech II-MID Examinations Branches: ECE &ME)**

Objective Paper

Sub : ENGINEERING PHYSICS

Max. Marks: 10 M

Time: 20 Minutes

Date: 11.05.2017

Roll No: _____

Invigilator Signature: _____

I. MULTIPLE CHOICE QUESTIONS:

1. According to Planck's law the allowed energy values are given by []
(a) $E = nh\nu$ (b) $E = h\nu$ (c) $E = h\lambda$ (d) $E = nh\lambda$
2. For an electron accelerated through 10 KV potential difference, the de Broglie Wave length is []
(a) 1.226 nm (b) 0.01226 nm (c) 122.6 nm (d) 0.126 nm
3. Matter waves are the waves associated with []
(a) solid particles (b) charged particles
(c) moving particles (d) cosmic particles
4. According to Max Born approximation, $|\Psi|^2$ represents []
(a) Energy density (b) Particle density
(c) Probability density (d) Charge density
5. The steady drift velocity per unit electric field is called []
(a) Mobility (b) random velocity (c) Mean free path
(d) relaxation time
6. Superconductors behave like []
(a) perfect magnets (b) perfect paramagnets
(c) perfect ferro magnets (d) perfect dia magnets
7. The resistivity of the material depends on which of the following. []
(a) Length of the conductor (b) Area of cross section of the conductor
(c) Temperature (d) All the above
8. Gold nano spheres of 100 nm appear []
(a) red in colour (b) blue in colour (c) orange in colour (d) violet in colour
9. At room temperature a semiconductor material is []
(a) Perfect insulator (b) Conductor
(c) Slightly conducting (d) None of the above.
10. The process of adding impurities to a pure semiconductor is called []
(a). Mixing (b) Doping (c) Diffusing (d) None of the above
11. In a N-type semiconductor, the position of Fermi-level []
(a) $E_F = (E_d + E_a)/2$ (b) $E_F = (E_d - E_a)/2$ (c) $E_F = (E_d + E_c)/2$ (d) $E_F = (E_d - E_a)/2$
12. In intrinsic semiconductors, number of electrons _____ number of holes []
(a) Equal (b) Greater than (c) Less than (d) can not define

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13. In p-type semiconductors, number of holes _____ number of electrons []
 (a) Equal (b) Greater than (c) Less than (d) Twice
14. Units for magnetic flux density []
 (a) Wb / m² (b) Wb / A.m (c) A / m (d) Tesla / m
15. In nano materials in decrease of size, the melting point []
 a) Increases (b) remains constant
 (c) decreases (d) none of the above
16. A Bohr magneton is equal to: []
 (a) $9.27 \times 10^{24} \text{ A-m}^2$ (b) $9.27 \times 10^{24} \text{ A-m}^2$
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17. The material which has negative value of susceptibility is []
 (a) diamagnetism (b) para magnetism
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18. The ratio of the intensity of magnetization to the magnetizing field is called []
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19. In superconductivity the conductivity of a material becomes []
 (a) Zero (b) Finite (c) Infinite (d) None of the above
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(c) Temperature (d) All the above
16. Gold nano spheres of 100 nm appear []
(a) red in colour (b) blue in colour (c) orange in colour (d) violet in colour
17. At room temperature a semiconductor material is
(a) Perfect insulator (b) Conductor
(c) Slightly conducting (d) None of the above.
18. For an electron accelerated through 10 KV potential difference, the de Broglie
Wave length is []
(a) 1.226 nm (b) 0.01226 nm (c) 122.6 nm (d) 0.126 nm
19. Matter waves are the waves associated with []
(a) solid particles (b) charged particles
(c) moving particles (d) cosmic particles
20. According to Max Born approximation, $|\Psi|^2$ represents []
(a) Energy density (b) Particle density
(c) Probability density (d) Charge density

13. The steady drift velocity per unit electric field is called []
(a) Mobility (b) random velocity (c) Mean free path
(d) relaxation time
14. Superconductors behave like []
(a) perfect magnets (b) perfect paramagnets
(c) perfect ferro magnets (d) perfect dia magnets
15. The resistivity of the material depends on which of the following. []
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