Program: BE-Electronics Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: EXC 503 and Course Name: EME

Time: 1hour Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1.  | Which component of the electric field intensity is always continuous at the boundary? |
| Option A: | Tangential |
| Option B: | Normal |
| Option C: | Horizontal |
| Option D:  | Vertical |
|  |  |
| Q2. | Magnetic field can be produced by \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Conduction current |
| Option B: | Displacement current |
| Option C: | Both conduction and displacement current |
| Option D: | It is produced naturally  |
|  |  |
| Q3. | The property of magnetic field to converge electrons is used in microscopes as \_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | Magnetic Convergence |
| Option B: | Magnetic plate |
| Option C: | Magnetic field |
| Option D: | Magnetic Lens  |
|  |  |
| Q4. | Which of the following laws do not form a Maxwell equation? |
| Option A: | Planck’s law |
| Option B: | Gauss’s Law |
| Option C: | Faraday’s law |
| Option D: | Ampere’s Law |
|  |  |
| Q5. | In free space, the charge carriers will be |
| Option A: | 0 |
| Option B: | 1 |
| Option C: | 100 |
| Option D:  | Infinity |
|  |  |
| Q6. | A dipole antenna is also called as? |
| Option A: | Marconi antenna |
| Option B: | Yagi antenna |
| Option C: | Bidirectional antenna |
| Option D:  | Hertz antenna |
|  |  |
| Q7.  | The impedance at the center of the antenna is known as? |
| Option A: | Characteristic impedance |
| Option B: | Radiation resistance |
| Option C: | Transmission impedance |
| Option D:  | Recovery resistance |
|  |  |
| Q8.  | The type of dipole antenna that has a higher band width is called as? |
| Option A: | Conical antenna |
| Option B: | Yagi antenna |
| Option C: | Helical antenna |
| Option D:  | Marconi antenna |
|  |  |
| Q9. | The radiation pattern of a half-wave dipole has the shape of a \_\_\_\_\_\_ |
| Option A: | Doughnut |
| Option B: | Sphere |
| Option C: | Hemisphere |
| Option D:  | Circular |
|  |  |
| Q10.  | What does the beam width of an antenna tell us? |
| Option A: | Signal strength |
| Option B: | Signal power |
| Option C: | Directivity |
| Option D:  | Degradation |
|  |  |
| Q11.  | When the Ex and Ey components of a wave are not same, the polarisation will be |
| Option A: | Linear |
| Option B: | Elliptical |
| Option C: | Circular |
| Option D:  | Parallel |
|  |  |
| Q12.  | For a non-zero Ex component and zero Ey component, the polarisation is |
| Option A: | Parallel |
| Option B: | Perpendicular |
| Option C: | Elliptical |
| Option D: | Circular |
|  |  |
| Q13. | Identify the polarisation of the wave given that, Ex = 2 cos wt and Ey = cos wt. |
| Option A: | Elliptical |
| Option B: | Circular |
| Option C: | Parallel |
| Option D:  | Linear |
|  |  |
| Q14.  |  When the polarisation of the receiving antenna is unknown, to ensure that it receives atleast half the power, the transmitted wave should be |
| Option A: | Linearly polarised |
| Option B: | Elliptically polarised |
| Option C: | Circularly polarised |
| Option D:  | Normally polarized |
|  |  |
| Q15. | The resultant electric field of a wave with Ex = 3 and Ey = 4 will be |
| Option A: | 7 |
| Option B: | 1 |
| Option C: | 25 |
| Option D:  | 5 |
|  |  |
| Q16.  | The point form of Ampere law is given by |
| Option A: | Curl(B) = I |
| Option B: | Curl(D) = J |
| Option C: | Curl(V) = I |
| Option D:  | Curl(H) = J  |
|  |  |
| Q17. | The Ampere law is based on which theorem? |
| Option A: | Green’s theorem |
| Option B: | Gauss divergence theorem |
| Option C: | Stoke’s theorem |
| Option D: | Maxwell theorem |
|  |  |
| Q18. | Ampere law states that, |
| Option A: | Divergence of H is same as the flux |
| Option B: | Curl of D is same as the current |
| Option C: | Divergence of E is zero |
| Option D:  | Curl of H is same as the current density  |
|  |  |
| Q19.  | Identify which of the following is the unit of magnetic flux density? |
| Option A: | Weber |
| Option B: | Weber/m |
| Option C: | Tesla |
| Option D:  | Weber-1 |
|  |  |
| Q20. | The divergence of H will be |
| Option A: | 1 |
| Option B: | -1 |
| Option C: |  ∞ |
| Option D: | 0 |
|  |  |
| Q21. | Which of the following theorem use the curl operation? |
| Option A: | Green’s theorem |
| Option B: | Gauss Divergence theorem |
| Option C: | Stoke’s theorem |
| Option D:  | Maxwell equation |
|  |  |
| Q22.  | The curl of a curl of a vector gives a |
| Option A: | Scalar |
| Option B: | Vector |
| Option C: | Zero value |
| Option D:  | Non zero value |
|  |  |
| Q23. | Curl cannot be employed in which one of the following? |
| Option A: | Directional coupler |
| Option B: | Magic Tee |
| Option C: | Isolator and Terminator |
| Option D:  |  Waveguides  |
|  |  |
| Q24.  | A field in which a test charge around any closed surface in static path is zero is called |
| Option A: | Solenoidal |
| Option B: | Rotational |
| Option C: | Irrotational |
| Option D:  | Conservative  |
|  |  |
| Q25. | Surface integral is used to compute |
| Option A: | Surface |
| Option B: | Area |
| Option C: | Volume |
| Option D:  | density. |