Course/Branch :B.E/EEE /	**Year / Semester** :II/III	Format No.	NAC/TLP-07a.13
Subject Code :EE8391	**Subject Name** :Electromagnetic Theory	Rev. No.	02
Unit No :4	**Unit Name** :**Electrodynamic Fields**	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1.	Permeability in a magnetic circuit corresponds to in an electric circuit. a)resistance b)resistivity **c)conductivity** d)conductance	L1
2.	An air gap is usually inserted in magnetic circuits to a)increase m.m.f. b)increase the flux **c)prevent saturation** d)none of the above	L1
3.	Energy stored by a coil is doubled when its current is increased by percent. a)25 b)50 **c)41.4** d)100	L2
4.	A material for good magnetic memory should have a)low hysteresis loss b)high permeability c)low retentivity **d)high retentivity**	L1
5.	In a magnetic material hysteresis loss takes place primarily due to a)rapid reversals of its magnetisation b)flux density lagging behind magnetising force c)molecular friction d)it high retentivity	L2
6.	The property of coil by which a counter e.m.f. is induced in it when the current through the coil changes is known as **a)self-inductance** b)mutual inductance c)series aiding inductance d)capacitance	L2
7.	The benefit of Maxwell equation is that **a) Any parameter can be calculated** b) Antenna can be designed c) Polarisation of the wave can be calculated d) Transmission line constants can be found	L1

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8.	Find the electric field applied on a system with electrons having a velocity 5m/s subjected to a magnetic flux of 3.6 units. a) 15 **b) 18** c) 1.38 d) 0.72	L4
9.	Calculate the emf of a material having flux density 5sin t in an area of 0.5 units. a) 2.5 sin t b) -2.5 cos t c) -5 sin t **d) 5 cos t**	L3
10.	The Maxwell second equation that is valid in any conductor is **a) Curl(H) = Jc** b) Curl(E) = Jc c) Curl(E) = Jd d) Curl(H) = Jd	L2
11.	Find the displacement current density of a material with flux density of 5sin t a) 2.5cos t b) 2.5sin t **c) 5cos t** d) 5sin t	L2
12.	In the conversion of line integral of H into surface integral, which theorem is used? a) Green theorem b) Gauss theorem **c) Stokes theorem** d) It cannot be converted	L1
13.	An implication of the continuity equation of conductors is given by **a) J = σ E** b) J = E/σ c) J = σ/E d) J = jwEσ	L2
14.	The charge density of a electrostatic field is given by a) Curl of E b) Divergence of E c) Curl of D **d) Divergence of D**	L1

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15.	Find the electric flux density of a material whose charge density is given by 12 units in a volume region of 0.5 units. a) 12 b) 24 **c) 6** d) 48	L3
16.	The charge density of a system with the position vector as electric flux density is a) 0 b) 1 c) 2 **d) 3**	L3
17.	Which quantity is solenoidal in the electromagnetic theory? a) Electric field intensity b) Electric flux density c) Magnetic field intensity **d) Magnetic flux density**	L2
18.	The reason for non existence of magnetic monopoles is **a) The magnetic field cannot be split** b) Due to permeability c) Due to magnetization d) Due to magnetostriction	L2
19.	The dipole formation in a magnet is due to **a) Interaction between the north and south poles together** b) Interaction between the north pole with the air c) Interaction between the south pole with the air d) Interaction of north and south pole separately with air	L1
20.	Calculate the emf in a material with flux linkage of $3.5t^2$ at 2 seconds. a) 3.5 b) -7 **c) -14** d) 28	L4
21.	Which of the following relations is correct? a) MMF = $\int$ B.dl b) MMF = $\int$ H.dl **c) EMF = $\int$ E.dl** d) EMF = $\int$ D.dl	L2
22.	The line integral of which parameter is zero for static fields? **a) E** b) H c) D d) B	L1

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23.	The magnitude of the conduction current density for a magnetic field intensity of a vector yi + zj + xk will be a) 1.414 **b) 1.732** c) -1.414 d) -1.732	L4
24	The charge density of a field with a position vector as electric flux density is given by a) 0 b) 1 c) 2 **d) 3**	L3
25.	The charge build up in a capacitor is due to a) Conduction current density **b) Displacement current density** c) Polarisation d) Magnetization	L1
26.	When electric potential is null, then the electric field intensity will be a) 0 b) 1 c) dA/dt **d) –dA/dt**	L2
27.	The gradient of the magnetic vector potential can be expressed as **a) –με dV/dt** b) +με dE/dt c) –με dA/dt d) +με dB/dt	L2
28.	The propagation of the electromagnetic waves can be illustrated by a) Faraday law b) Ampere law **c) Flemming rule** d) Coulomb law	L1
29.	Reversing the field or the current will reverse the force on the conductor. **a)Yes** b)No	L1
30.	A coil is wound on iron core which carries current I. The self-induced voltage in the coil is not affected by a)variation in coil current **b)variation in voltage to the coil** c)change of number of turns of coil d)the resistance of magnetic path	L2

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31.	For a lossless dielectric, the attenuation will be a) 1 **b) 0** c) -1 d) Infinity	L2