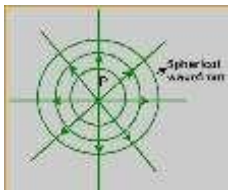
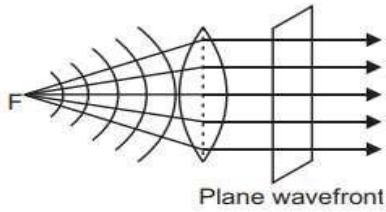
Marking Scheme of Practice Question Paper -3

Physics

Sr. No.	VALUE POINTS	Marks
1	Magnetic dipole moment	1
2	Microwave (any one use) Or speed	1
3	Because toroid has no ends	1
4	Flux= MI Change in flux=MdI M= 1.5 H I2 = 20A ; I1 =0A dI= 20-0= 20A Change in flux = 1.5*20 = 30Wb **OR** 0.637 Io	1 1
5	TE = -13.6/ n^2 = -3.4 eV KE = - TE , KE = 3.4 eV	½ ½

6	no change	1 1
7	$R= Ro(A)^{1/3}$ R1/R2 = 1/3 Or electron	½ ½ Or 1
8	Energy gap should lie in the range 1.8-2.8 eV **OR** (i) Decreases (ii) increases	1
9	(i) energy gap beyween 1.8 eV to 1.1 eV (ii) high optical absorbtion	½ + ½ 1
10	Zero in both cases	1
11	a)	1
12	c)	1
13	d)	1
14	d)	1
15	i) d) curved path ii) d) none of these iii) b) increases iv) d) 16:1 v) c) decreases (any 4 parts to be attempted)	4x1 = 4
16	i) C ii) C	4x1=4

	iii) B iv) C v) C (any 4 parts to be attempted)		

17	Voltmeter 0-6V will hve greater resistance Correct reason	1 1
18	Diagram Derivation **OR** **(i)**  **(ii)**  	½ 1.5 1+1
19	Wab = q(Vb-Va) Va=Vb Wab = 0 Or Va-Vb = positive Va-Vb = negative(with reason)	1 1 1 1
20	Circuit Working V-I graph	½ 1 ½
21	e = ~~Bvl~~ —— put values e= 1 volt I =e/R I=0.2 A	½ ½ ½ ½
22	For central maxima at a point ‘B’ on screen SS1~~+ S1B~~ = SS2+ S2B If OB=y SS1-SS2= S2B –S1B=dy/D λ/4 = dy/D y= D λ/4d = OB	1 1

23	Diagram Working	
24	Definition Max= poles Min = equator Or Formula Calculation Answer (60^0)	1 ½+½ ½ 1 ½
25	Diagram Any two advantages	1 ½ ½
26	(i) Decreases with reason (ii) Decreases with reason (iii) Decreases with reason	½ + ½ ½ + ½ ½ + ½
27	(i) Shift towards B with reason (ii) No shift + reason (iii) No null point + reason Or i2=7/ 13 A, i1=2/13 A i3= 9/13 A(with proper application of Kirchhoff laws)	½ + ½ ½ + ½ ½ + ½ 1 1 1
28	(a)Statement Proof (b) formula Calculation Answer (2:1)	½ 1 ½ 1 ½
29	Correct calculation of value of n Correct calculation wavelength of first member of Lyman series= 122 nm Correct calculation wavelength of first member of Balmer series= 656 nm	
30	(a)formula Calculation of mass defect (delta m = 0.00456 u) Energy released = 4.25 MeV	½ ½ 1

	(b) mass no =182 Atomic no = 72	½ ½

31	a)At point A,σ/ 2εo towards plate A At point B, 3σ/ 2εo towards plate B b)Correct answer Correct answer Correct answer OR Correct definition Correct derivation Potential energy = -4J	1 1 1 1 1 1.5 **1** **2** **2**

32	Diagram Derivation Graph Impedance at resonance Or (a)Definition Derivation (b)correct derivation	1 2 1 1 **1** **2** **2**
33	(a) Ray diagram derivation (b) calculation for radius(22 cm) or (a) Ray diagram Formula (b) Numerical (magnification =24, separation = 150 cm)	1 2 2 2 1 2