

PHYSICS KEY - SEP. 2013.(QLY EXAM)PART - I

Q.No.	Option	ANSWER	Q.No.	Option	ANSWER
1	a.	2.5	16.	d.	Zero
2	d.	Will be parallel but in opposite direction	17	a.	AC only
3.	b.	Highly polar	18.	b.	Capacitor
4.	a.	Zero	19.	d.	To find the structure of the atoms
5.	d.	electric potential	20.	a.	Current
6.	c.	inside the sphere	21.	a.	$V = C \cot \alpha$
7.	b.	$6.4 \times 10^3 \text{ m}^2 \text{ v}^{-1} \text{ s}^{-1}$	22	a.	transverse
8.	c.	$\frac{1}{2}$	23	d.	Zero
9.	b.	increases	24	a.	1.732
10.	c.	temperature of the junction.	25	c.	Angular momentum.
11.	c.	Joule's law of heating effect.	26	c.	Sommerfeld.
12.	a.	Towards A	27	b.	absorbs green light
13.	d.	infinite resistance	28	b.	a parabola.
14.	d.	4	29	b.	a stream of positively charged particles.
15.	a.	Eddy Currents	30.	a	1:2:3

## PART-II

For question numbers 31, 32, 33, 38, 39, 40, 43, 46, 47, 48, 49 & 50 give 3 marks for each correct answer.

34.  $C = \frac{\epsilon_0 \epsilon_r A}{d}$  — ① Substitution — ①  
 $C = 2.478 \times 10^{-9} F$  — ①

35.  $R = \frac{\rho l}{A}$  (or) equivalent formula — ①  
 Substitution & calculation — ①  
 $P = 1.9625 \times 10^{-8} \mu m$  — ① (Refer solved problem 2.4)

36.  $R_t = R_0(1 + \alpha t)$  — ① Sub & calculation — ①  
 $R_t = 14 \Omega$  & } ①  
 Comment

37. Low 'p' value —  $1\frac{1}{2}$  ; High 'd' —  $1\frac{1}{2}$

41.  $\frac{\theta}{I}$  increases when 'n' increases —  $1\frac{1}{2}$

$\frac{\theta}{V}$  does not increase due to the increase in 'G' when 'n' increases —  $1\frac{1}{2}$

42.  $E_0 = NAB\omega$  — ① Sub & cal — ①  $E_0 = 52.75 V$  — ①  
 (Refer 4.5)

44.  $V = 0$  for DC — ①  $X_c = \frac{1}{\omega C}$  explanation — ②

45.  $S = \frac{\theta}{l \times \frac{m}{V}}$  — ① Sub & cal — ①  $m = 3g$  — ①  
 (Refer 5.8)