

Association of Physics Teachers
NATIONAL STANDARD EXAMINATION IN PHYSICS 2013- 2014

Date of Examination : 24th November 2013

Code - 134
Time 9.30 to 11.30 Hrs

ANSWER KEY

PART-A	
<u>SUB-PART A-1</u>	
1	b
2	c
3	d
4	d
5	b
6	c
7	d
8	a
9	b
10	a
11	b
12	a
13	b
14	a
15	b
16	c
17	c
18	d
19	b
20	b
21	a
22	c
23	b
24	a

25	a
26	c
27	b
28	c
29	a
30	d
31	c
32	c
33	d
34	c
35	a
36	c
37	c
38	c
39	a
40	b
<u>SUB-PART A-2</u>	
41	a,b
42	a
43	a,c,d
44	a,b,c,d
45	a,b,c,d
46	c
47	c,d
48	a,c
49	a,b,c
50	c,d

PART-B	
1.	(i) $\frac{\alpha^2}{2}t$ (ii) $\frac{\alpha^2}{2}$
	(iii) $\frac{u+v}{2} = \frac{\alpha\sqrt{s}}{2}$
2.	(i) $\epsilon_r = \frac{\sin^2 \theta_1 \tan \theta_1}{\sin^2 \theta_1 \tan \theta_2} \left(\frac{\rho}{\rho - \sigma} \right)$
	(ii) $\epsilon_r = \frac{\rho}{\rho - \sigma}$
3.	(a) 40 cm (b) $\sqrt{2}$
4.	(a) $P_C = P_B = \frac{1}{2^{5/3}} \text{ atm,}$
	$T_B = (300) \left(\frac{1}{2} \right)^{2/3},$
	$T_C = \frac{1}{2} \left(\frac{300}{2^{2/3}} \right) \text{ K}$
	(b) $150 \left[1 - \frac{1}{2^{2/3}} \right] \text{ J,}$
	$W_{CA} = 0, W_{BC} = -\frac{100}{2^{5/3}} \text{ J}$
	(c) $\Delta Q = \frac{1}{2^{2/3}} [150 \times 2^{2/3} - 200]$
	= ΔW
	(d) 0.233
5.	(a) 644 Ω
	(c) 0.155
	(d) 207.36 sec.