Bihar Public Service Commission

Lecturer, Written (Objective) Competitive Examination (Advt. No. 14/2020) (Examination Date : 26.10.2022)

Series-A		Series-B		Series-C		Series-D		Remarks
Question	Answer	Question	Answer	Question	Answer	Question	Answer	
No.		No.		No.		No.		
No. 1	A	<u>7</u>	B	No. 19	C	No. 25	D	No Change. Solution:- The auxiliary equation of the partial differential equation, in Lagrange's form, is given by $\frac{dx}{x} = \frac{dy}{y} = \frac{dz}{-z}$ Taking the 1 st and 3 rd ratios, we get $\frac{dx}{x} + \frac{dz}{z} = 0$ which on Integration gives logx + logz = logc $\Rightarrow xz = c \ (constant)$ $\Rightarrow z = \frac{c}{x} = \frac{k_1 + k_2}{x}$, where $c = k_1 + k_2$ equation (i) Now, taking the 1 st and the 2 nd ratios $\frac{dx}{x} = \frac{dy}{y}$ Or, $\frac{dx}{x} - \frac{dy}{y} = 0$ On Integration, logx - logy = logc $\Rightarrow \frac{x}{y} = c$ $\Rightarrow \frac{x}{y} = k_1 + k_2 \ from$ (i) Now from (i) $z = \frac{k_1 + k_2}{x}$
								Hence, option (A) is correct.
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3	В	9	С	21	D	27	A	
3	B A	9 10	C B	21 22	D C	27 28	A D	

FINAL ANSWER KEY : Electrical Engineering

Question Answing 6 C 7 A 8 A 9 D 10 Deleter 11 D 12 A 13 A 14 C 15 Deleter 16 B 17 Deleter 18 A 19 B 20 C 21 A 22 C 23 Deleter 24 Deleter 25 B 26 C 27 Deleter 28 Deleter	No. C 12 A 13 A 14 D 15 eted 16 D 17 A 18 A 19 C 20 eted 21 B 22 eted 23 A 24	D B B A Deleted A B B B B B D Deleted	Question No. 24 25 26 27 28 29 30 1 2 2 9 30	A C B Deleted B C	No. 30 1 2 3	B D D C	
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29 D	D 5	Α	17	В	23	С	
30 C	C 6	D	18	Α	24	В	
31 C	C 48	D	59	Α	70	В	
32 A		В	60	С	71	D	
33 C	C 50	D	61	Α	72	В	
34 B	B 51	С	62	D	73	А	
35 D	D 52	Α	63	В	74	С	
36 C		Α	64	В	75	С	
37 C		D	65	A	76	B	
38 D		A	66	В	77	C	
39 B		C	67	D	78	A	
40 C		D	68	A	79	B	
41 A		B	69	C	80	D	
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43 A		B	70	C	32	D	
44 A		B	72	C	33	D	
45 A		B	73	C	34	A	
46 D		A	74	B	35	C	
40 D		B	75	C	36	A	
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Series-A		Series-B		Series-C		Series-D		Remarks
Question	Answer	Question	Answer	Question	Answer	Question	Answer	
No.		No.		No.		No.		
48	C	65	D	76	А	37	В	No Change.
								Reason: In a three phase $\Delta - Y$
								transformer, there is a phase shift of
								30° between line voltages and
								currents between Δ and Y sides.
								However, the line voltages of the Y
	_		_					side lead the Δ side voltages by 30°
49	D	66	A	77	В	38	C	
50	C	67	D	78	A	39	В	
51	В	68	С	79	D	40	A	
52	D	69	A	80	В	41	С	
53	C	70	D	31	A	42	В	
54	A	71	В	32	C	43	D	
55	A	72	В	33	С	44	D	
56	D	73	A	34	В	45	C	
57	C	74	D	35	A	46	В	
58	В	75	С	36	D	47	A	
59	C	76	D	37	A	48	В	
60	C	77	D	38	A	49	В	
61	A	78	В	39	C	50	D	
62	D	79	А	40	В	51	C	
63	В	80	С	41	A	52	В	
64	Deleted	31	Deleted	42	Deleted	53	Deleted	No Change. Reason: If there are multiple poles on
								the Y axis, there shall be either more
								than a pole at the origin or pairs of
								poles. If there are poles at the origin,
								the system is unstable. However, the pairs of poles on the Y axis, the
								system is marginally stable. Since the
								options have both, the question may
								be deleted.
65	Α	32	В	43	C	54	D	
66	D	33	А	44	В	55	С	
67	В	34	С	45	D	56	А	
68	D	35	А	46	В	57	С	
69	А	36	В	47	С	58	D	No Change.
								In a CT, Ferrite core is preferred to
70	С	37	D	48	A	59	В	avoid the ratio and phase angle errors
70	A	37	B	48	C A	60	D	
71	B	39	C	49 50	D	61	A	
72	Deleted		Deleted	51	Deleted			No Change.
	Deleted	40	Deleted	71	Deleteu	02	Deleteu	Class B and Class AB amplifiers
								provide distortion in the output. Since
								the options have both the types, the
						63		question may be deleted.
74	C	41	D	52	A	63	B	
75	С	42	D	53	A	64	В	

Series-A		Series-B		Series-C		Series-D		Remarks
Question	Answer	Question	Answer	Question	Answer	Question	Answer	
No.		No.		No.		No.		
76	С	43	D	54	Α	65	В	
77	D	44	А	55	В	66	С	
78	В	45	С	56	D	67	Α	
79	В	46	С	57	D	68	Α	
80	Deleted	47	Deleted	58	Deleted	69	Deleted	