KD Campus
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2007, OUTRAM LINES, 1ST FLOOR, NEAR GTB NAGAR METRO STATION, GATE NO. - 2, DELHI-110009

Answer-key & Solution

SSC JE (Electrical)
MOCK -(58)
Date 30 / 07/ 2016

1. C	26. A	51. B	76. A	101. A	126. C	151. B	176. A
2. B	27. D	52. D	77. A	102. C	127. D	152. D	177. D
3. C	28. D	53. B	78. D	103. B	128. C	153. B	178. D
4. C	29. A	54. C	79. C	104. D	129. C	154. D	179. D
5. B	30. B	55. C	80. C	105. A	130. D	155. C	180. D
6. B	31. A	56. C	81. A	106. B	131. B	156. D	181. C
7. A	32. B	57. A	82. A	107. B	132. B	157. B	182. B
8. A	33 C	58. A	83. B	108. D	133. C	158. C	183. A
9. C	34. A	59. B	84. A	109. B	134. A	159. D	184. A
10. B	35. C	50. A	85. A	110. A	135. D	160. D	185. C
11. C	36. A	61. D	86. A	111. A	136. A	161. B	186. C
12. B	37. B	62. D	87. A	112. A	137. A	162. A	187. B
13. B	38. A	63. B	88. D	113. C	138. A	163. A	188. B
14. C	39. A	64. D	89. C	114. A	139. B	164. C	189. D
15. D	40. D	65. D	90. A	115. C	140. C	165. B	190. C
16. A	41. B	66. B	91. C	116. C	141. A	166. C	191. B
17. D	42. D	67. C	92. D	117. C	142. B	167. D	192. A
18. D	43. B	68. B	93. D	118. B	143. B	168. B	193. D
19. D	44. B	69. A	94. C	119. C	144. D	169. D	194. A
20. C	45. D	70. A	95. D	120. B	145. B	170. C	195. B
21. A	46. C	71. A	96. A	121. B	146. D	171. D	196. A
22. C	47. A	72. D	97. B	122. D	147. A	172. D	197. C
23. B	48. A	73. B	98. D	123. B	148. C	173. C	198. B
24. B	49. C	74. D	99. C	124. B	149. D	174. D	199. D
25. A	50. B	75. B	100. D	125. D	150. D	175. D	200. D

Correction Mock Test-57

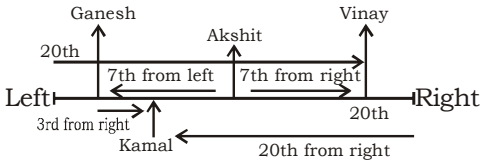
69(b), 80(a)

Note : *If your opinion differ regarding any answer, please message the mock test and Question number to 8375805483*

Note : *If you face any problem regarding result or marks scored, please contact: 9313111777*

SOLUTION SSC JE (Electrical) MOCK TEST no. 58

1. (C) 'When' is used for 'time'. In the same way 'where' is used for 'place'.
2. (B) A collection of book is called library. In the same way a collection of ship is called fleet
3. (C) U T S : E D C :: W V U : G F E
   -16, -16, -16 ; -16, -16, -16
4. (C) T M X K : U L Y J :: W Q F Z : X P G Y
   +1, -1, +1, -1 ; +1, -1, +1, -1
5. (B) 6 : 2 :: 8 : **3**
   (6÷2)-1 = 2 ; (8÷2)-1 = 3
6. (B) Donkey is considered fool. In the same way Fox is considered cunning.
7. (A) M K Q O : L N P R :: Y S U W : X V T Z
   -1, +3, -1, +3 ; -1, +3, -1, +3
8. (A) 365 : 90 :: 623 : **36**
   3×6×5 = 90 ; 6×2×3 = 36
9. (C) 212 : 436 :: 560 : **784**
   +224 ; +224
10. (B) 'Scissors' are used to cut 'Cloth'. In the same way 'Razor' is used to cut 'Beard'.
11. (C) All are the names of a particular group of people except 'C'.
12. (B) All have even letter except in 'B'
13. (B) (A) G E C A (-2, -2, -2) (B) V U S Q (-1, -2, -2)
    (C) P N L J (-2, -2, -2) (D) T R P N (-2, -2, -2)
14. (C) (A) U Z D G I (+5, +4, +3, +2) (B) J O S V X (+5, +4, +3, +2)
    (C) R W A C F (+5, +4, +2, +3) (D) F K O R T (+5, +4, +3, +2)
15. (D) (A) B A D C (-1, +3, -1) (B) J I L K (-1, +3, -1)
    (C) N M P O (-1, +3, -1) (D) V U W X (-1, +2, -1)
16. (A) (A) 66 - 56 = 10
    (B) 101 - 90 = 11
    (C) 41 - 30 = 11
    (D) 43 - 32 = 11
17. (D) (A) J L N K (+1, +2) (B) T V W U (+1, +2)
    (C) A C E B (+1, +2) (D) G J K H (+1, +1)
18. (D)
19. (D) E = $
    R = 7
    W & K = 4 & β
    A = 9
    KEWRA = $ β 794
20. (C) Look many Books ⟶ sa da na
    Many more days ⟶ ka pa da
    many ⟶ da
    Books ⟶ either sa or na.
21. (A) The minute hand takes $65\frac{5}{11}$ minutes to cross the hour hand.
    According to question, the minute hand takes 65 minutes to cross the hour hand.
    So, it gains $\frac{5}{11}$ minutes in every 65 minutes.
    So, it gains in 65 minutes = $\frac{5}{11}$ minutes
    It gains in 60 minutes
    $$= \frac{60\times 5}{11\times 65} = \frac{60}{11\times 13}$$
    In 24 hours it will gains
    $$= \frac{60\times 24}{143}$$
    $$= \frac{1440}{143} = 10\frac{10}{143} \text{ minutes}$$
22. (C) 1,3,8,5,7,2,9,8,5,7,6,3,4,7,9,4,7,6,5,8,5,3
23. (B)



Now, total number of boys in the row
= position of Kamal from left + position of Kamal from right – 1
= 20 + 9 – 1 = 28 boys

24. (B) 2 (×2+1) 5 (×2-1) 9 (×2+1) 19 (×2-1) 37 (×2+1) **75**

25. (A) 8 (×3) 24 (÷2) 12 (×3) 36 (÷2) 18 (×3) 54 (÷2) **27**

26. (A) 113 (×2-1) 225 (×2-1) 449 (×2-1) **897** (×2-1) 1793

27. (D) 230 (+ (4)²) 246 (+ (5)²) 271 (+ (6)²) 307 (+ (7)²) **356**

28. (D) DF (+3, +4) GJ (+3, +4) KM (+3, +4) NQ (+3, +4) RT (+3, +4) **UX**
(+4, +3, +4, +3, +4)

29. (A) WUV (-3, -3) TRS (-3, -3) QOP (-3, -3) NLM (-3, -3) **KIJ**
(-3, -3, -3, -3)

30. (B) BDE (+5, +5) GIJ (+5, +5) LNO (+5, +5) QST (+5, +5) VXY
(+5, +5, +5, +5)

31. (A) $(15 - 9) \times (22 - 16) \Rightarrow 6 \times 6 = 36$
$(13 - 9) \times (11 - 7) \Rightarrow 4 \times 4 = 16$
Similarly,
$(21 - 13) \times (x - 15)$
$= 8x - 120 = 64$
$\Rightarrow 8x = 120 + 64 = 184$
$\therefore x = 23$

32. (B) $(3)^2$, 25, 34, 41, $(4)^2$, $(5)^2$; $(2)^2$, 40, 13, 45, $(6)^2$, $(3)^2$; $(7)^2$, 113, 130, 145, $(8)^2$, $(9)^2$

33. (C)

6	7	
85	?	8
2	13	221	11
	3	10	

$6^2 + 7^2 = 85$
$2^2 + 3^2 = 13$
$10^2 + 11^2 = 221$
$7^2 + 8^2 = 113$

34. (A) In the first row $\Rightarrow 15 + 7 - 10 = 12$
In the second row $\Rightarrow 36 + 9 - 20 = 25$
In the third row $\Rightarrow 28 + 11 - 24 = \mathbf{15}$

35. (C) 9 + 5 = 8 7 = 12 + 6; 4 + 10 = 6 9 = 8 + **10**
(9 + 5) = (4 +10)
(8 + 7) = (6 +9)
(12+6) = (8 +10)

36. (A) Author, Philosopher, Teacher

37. (B) Desks, Table, Chairs, Mats
I - ×
II - ✓
III - ×

Desks, Table, Chairs, Mats
I - ✓
II - ✓
III - ✓

Only IInd follow

38. (A) Pen, Glass, Chalk, Jug
I - ✓
II - ×

Pen, Glass, Chalk, Jug
I - ✓
II - ✓

Only Ist follow.

39. (A) 0 1 2 3 4 5 6 7 8 9
α β ω δ θ η γ μ ν φ

$$\frac{\omega\eta\gamma}{\theta} - \gamma\beta + \frac{\delta\alpha}{\omega} = ?$$

$$\frac{256}{4} - 61 + \frac{30}{2} =$$

64 - 61 + 15 = 79 - 61 = 18
18 = βν

40. (D) N, 1 Right, 1 Left, W, E, 1 Right, 1 Right, S
He Required I Left or 3 Right
But in option 'D' our requirement in not fulfiled

41. (B) Father's only sister = aunt
Aunt's son = cousin

46. (C) **a**bcd/a**b**cd/ab**c**d/abc**d**

50. (B) F A I T H
31 34 23 76 79

101. (a) 6 Ω, I, $(i-4)$, 4 A, 50 V, 7 Ω, R

By applying KVL in 1st loop

$50 = 6i + 7(i - 4)$

$\Rightarrow \quad 13i = 75$

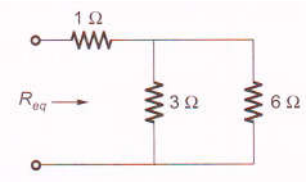
$\Rightarrow \quad i = 6$ A

Now, by applying KVL in 2nd loop

$7 \times 2 = 4 \times R$

$R = 3.5\,\Omega$

104. (d)



$R_{eq} = 1 + (3||6) = 3\,\Omega$

Voltage across current source

$I_s R_{eq} = 2 \times 3 = 6$ V

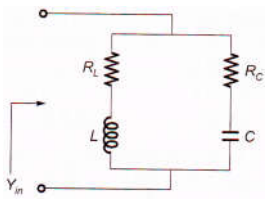
105. (c) Angle between voltage across R and inductor will be 30° as given

So, $\tan 30^\circ = \dfrac{X_L}{R}$; $R = \dfrac{X_L}{\tan 30^\circ} = \sqrt{3}.X_L$

as $X_L = 1\,\Omega$

$R = \sqrt{3}\,\Omega$

111. (a)



If $R_L = R_C = \sqrt{\dfrac{L}{C}}$

The input admittance of the network is purely real irrespective of the frequency of operation

$\therefore \quad 4 = \sqrt{\dfrac{1}{C}} \Rightarrow C = \dfrac{1}{16}$F

119. (c) $R + 100 = \dfrac{10}{1 \times 10^{-3}} = 10{,}000 \Rightarrow R = 9900\,\Omega$

120. (b) $m = \dfrac{5}{1 \times 10^{-3}} = 5000$

$R_{sh} = \dfrac{50}{(5000 - 1)} = \dfrac{R_m}{(m - 1)} \Rightarrow R_{sh} = 0.01\,\Omega$

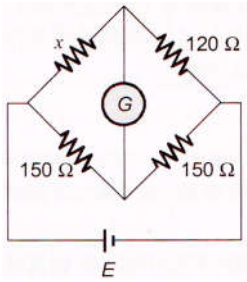
121. (b) Number of turns required

$= \dfrac{1}{\text{Resolution}}$

$= \dfrac{1}{\left(\dfrac{0.05}{100}\right)} = \dfrac{100 \times 10^2}{5} = 2000$ turns

123. (b) $\dfrac{x}{150} = \dfrac{120}{150}$

$\Rightarrow \quad x = 120\,\Omega$



141. (a) In lap winding no. of parallel paths a = P = 6

$\therefore$ Resistance of single path R is given by

$\dfrac{R}{6} = 0.05 \Rightarrow R = 0.30\Omega$

In wave winding a = 2, so single path would have resistance of 3R.

$\therefore$ armature resistance

$= \dfrac{3R}{2} = \dfrac{3}{2} \times 0.03 = 0.45\Omega$

143. (b) Number of commutator segments = Number of coils.

Hence, option (b) is correct.

145. (d) At minimum efficiency variable loss = fixed loss

$x_2 \times (P_a)_{ft}$ = Piron los

$x = \sqrt{\dfrac{40.5}{50}} = 0.9$

146. (d) % V.R. = [(% R) × $\cos\phi \pm$ (% X) × $\sin\phi$]

= 2 × 0.8 + 4 × 0.6 = 4

or, V.R. = 4%

148. (c) Rotor losses ≅ rotor copper/ ohmic losses Rotor losses = airgap power – mech developed power

149. (d) $f_r = s\,f_s$

$\Rightarrow \quad 2 = s \times 50$

$\Rightarrow \quad s = \dfrac{2}{50} = 0.04$

$N = \dfrac{120 \times 50(1 - 0.04)}{8} = 720$ rpm

150. (d) Supply frequency f = $\frac{1000 \times 6}{120} = 60\,\text{Hz}$

as sf. i.e., slip frequency = 2 Hz

$\Rightarrow$ s = 0.04

$\therefore \quad N_s = \frac{120 \times 5}{8} = 750\,rpm$

$\therefore$ $N_r = N_s(1-s)$

= 750(1– 00.04) = 720 rpm

156. (d) Find thearea under the load curve and then divide the same by 8760

$$\text{Average} = \frac{\text{Average load}}{\text{Peak load}}$$

$$= \frac{\text{Energy consumed in t hrs}}{\text{Peak load} \times t}$$

$$= \frac{1000 \times 100 + 10 \times 7760 + \frac{1}{2} \times 7760 \times 90}{100 \times 8760}$$

$$= \frac{526800}{8760 \times 100} = 0.6013 = 0.6013 \times 100\%$$

= 60.13%

163. (a) $Y_{23} = -y_{23} = +j\,10$

$y_{23} = -j\,10$

or $Z_{23} = \frac{1}{y_{23}} = +j0.1$

190. (c) $V_o = \left(\frac{12}{4} \times 1 + \frac{12}{6} \times 2\right) 2 = -(3+4) = -7V$