Answer-key & Solution

SSC JE (Electrical)
MOCK -(95)
Date:- 29.4.2017

1. C	26. A	51. B	76. A	101. B	126. B	151. D	176. B
2. B	27. D	52. D	77. A	102. B	127. D	152. B	177. A
3. C	28. D	53. B	78. D	103. A	128. B	153. A	178. A
4. C	29. A	54. C	79. C	104. C	129. D	154. D	179. A
5. B	30. B	55. C	80. C	105. A	130. D	155. C	180. B
6. B	31. A	56. C	81. A	106. A	131. A	156. D	181. C
7. A	32. B	57. A	82. A	107. A	132. D	157. C	182. A
8. A	33 C	58. A	83. B	108. D	133. A	158. D	183. C
9. C	34. A	59. B	84. A	109. A	134. C	159. D	184. D
10. B	35. C	60. A	85. A	110. B	135. A	160. D	185. D
11. C	36. A	61. D	86. A	111. C	136. D	161. D	186. C
12. B	37. B	62. D	87. A	112. B	137. B	162. A	187. B
13. B	38. A	63. B	88. D	113. C	138. B	163. C	188. D
14. C	39. A	64. D	89. C	114. B	139. C	164. A	189. B
15. D	40. D	65. D	90. A	115. D	140. A	165. A	190. B
16. A	41. B	66. B	91. C	116. C	141. B	166. A	191. D
17. D	42. D	67. C	92. D	117. C	142. C	167. B	192. B
18. D	43. B	68. B	93. D	118. D	143. A	168. A	193. A
19. D	44. B	69. A	94. C	119. C	144. C	169. C	194. C
20. C	45. D	70. A	95. D	120. C	145. D	170. A	195. A
21. A	46. C	71. A	96. A	121. B	146. A	171. A	196. A
22. C	47. A	72. D	97. B	122. B	147. D	172. A	197. A
23. B	48. A	73. B	98. D	123. C	148. C	173. A	198. A
24. B	49. C	74. D	99. C	124. C	149. D	174. B	199. B
25. A	50. B	75. B	100. D	125. C	150. B	175. D	200. B

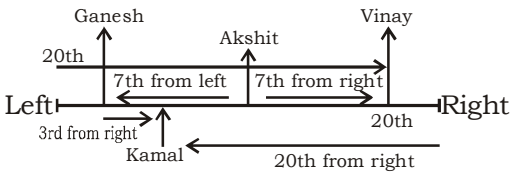
Mock Test - 94 (112. D)

Note : *If your opinion differ regarding any answer, please message the mock test and Question number to 9560620353*

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

SOLUTION SSC JE (Electrical) MOCK TEST no. 95

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 in each)
4. (C) T M X K : U L Y J :: W Q F Z : X P G Y
   (+1, -1, +1, -1 in each)
5. (B) 6 : 2 :: 8 : **3**
   $(6\div2)-1 = 2$ $\quad (8\div2)-1 = 3$
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 in each)
8. (A) 365 : 90 :: 623 : **36**
   $3\times6\times5 = 90$ $\quad 6\times2\times3 = 36$
9. (C) 212 : 436 :: 560 : **784**
   (+224 in each)
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 (-2) E (-2) C (-2) A (B) V (-1) U (-2) S (-2) Q
    (C) P (-2) N (-2) L (-2) J (D) T (-2) R (-2) P (-2) N
14. (C) (A) U (+5) Z (+4) D (+3) G (+2) I (B) J (+5) O (+4) S (+3) V (+2) X
    (C) R (+5) W (+4) A (+2) C (+3) F (D) F (+5) K (+4) O (+3) R (+2) T
15. (D) (A) B (-1) A (+3) D (-1) C (B) J (-1) I (+3) L (-1) K
    (C) N (-1) M (+3) P (-1) O (D) V (-1) U (+2) W (-1) X
16. (A) (A) 66 - 56 = 10
    (B) 101 - 90 = 11
    (C) 41 - 30 = 11
    (D) 43 - 32 = 11
17. (D) (A) J (+2) L (+1) N (+2) K (B) T (+2) V (+1) W (+2) U
    (C) A (+2) C (+1) E (+2) B (D) G (+1) J (+2) K (+1) H
18. (D)
19. (D) E = $
    R = 7
    W & K = 4 & β
    A = 9
    KEWRA = $β794
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
    $$= \frac{60\times5}{11\times65} = \frac{60}{11\times13}$$
    In 24 hours it will gains
    $$= \frac{60\times24}{143}$$
    $$= \frac{1440}{143} = 10\frac{10}{143} \text{ minutes}$$
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 (+4, +3) GJ (+4, +3) KM (+4, +3) NQ (+4, +3) RT (+4, +3) **UX**

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

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

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 $\Rightarrow 28 + 11 - 24 =$ **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, W, E, S: 1 Right, 1 Left, 1 Right, 1 Right
He Required I Left or 3 Right
But in option 'D' our requirement in not fulfiled

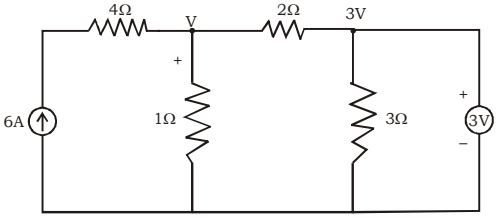
41. (B) Father's only sister = aunt
Aunt's son = cousin

42. (D)
43. (B)
44. (B)
45. (D)
46. (C) **a**bcd/a**b**cd/ab**c**d/abc**d**
47. (A)
48. (A)
49. (C)
50. (B) F A I T H
31 34 23 76 79

134.(C) $N_g = E_g\ (60A / \Phi pz)$
$E_g = V + I_a R_a$; in generator
$N_m = E_b\ (60A / \Phi pz)$
$E_b = V - I_a R_a$; in motor
$E_g > E_b$ for same terminal voltage
Therefore, $N_g > N_m$

135.(A) $N = N_s (1-S) = N_S - N_S \times S$
$1440 = N_s (1-S)$
$N_s = 1440 / (1-S)$
$N_s = (120\ f/\ p) = 120 \times 50/p = 6000\ p$
N_s will be closer to N i.e 1440
When P = 2 ; Ns = 3000 rpm , not close to N
When P = 4 ; Ns = 1500 rpm , it is closer to N
Therefore P = 4 for N=1440

138. (B)



Nodal at V $\Rightarrow$

$$\frac{V}{1} + \frac{V-3}{2} = 6$$

$2V + V - 3 = 12$
$3\ V = 15$
$V = 5$

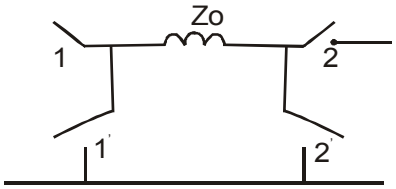
$\therefore$ Voltage across the 2Ω resistor in $5 - 3 = 2$ V

147.(D) Given m = 3, $N_r = 12$
Step angle = $360 / m \times N_r$
$= 360 / (3 \times 12) = 10°$

158. (D) $$Z_{pu(new)} = Z_{pu(old)} \times \frac{MVA_{new}}{MVA_{old}} \times \left(\frac{V_{old}}{V_{new}}\right)^2$$

$$= 5 \times 100 \times \left(\frac{22}{220}\right)^2 = 0.1pu$$

159. (D) To represent Transformer in zero sequance n/w



Switching diagram

1^1 & 2^1 $\rightarrow$ Series Switching
1 & 2^1 $\rightarrow$ Sunt Switching
1 & 1^1 $\rightarrow$ Primary Switching
2 & 2^1 $\rightarrow$ Secondary Swithcing

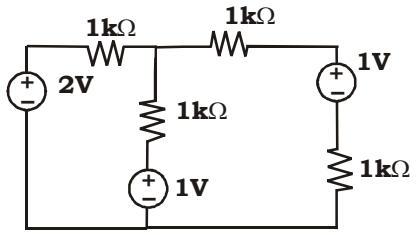
$\rightarrow$ Series switches is used, when the winding is star connected neutral grounded.

$\rightarrow$ A shunt swithches is closed, when the winding is Δ-connected.

160.(D) Given : $N_{s1} = 1200$, $P_1 = 6$,
$P_2 = 4$, s = 0.05,
Frequency $f = N_s \times P/120$
$= 120 \times 6/120 = 60$ Hz
rotor frequency $f^/ = s.f = 0.05 \times 60 = 3.0$ Hz
Now, $N_{s2} = 120 \times 60 / 4 = 1800$ and $Ns - N = 120\ f / P_2$
Therefore, $N = N_s - 120\ f / P_2 = 1800 - 120 \times 0.05 \times 60/4 = 1800 - 90 = 1710$

166. (A) $$I = 1 \times \frac{1}{1+(2+1)} = 0.25A$$

168. (A)



$$\frac{2-V}{1} = \frac{V-1}{1} + \frac{V-1}{2}$$

$$2 - V = \frac{2V - 2 + V - 1}{2}$$

$4 - 2V = 3V - 3$

$$V = \frac{7}{5}\text{Volt}$$

Current in resistor R

$$= V - \frac{1}{2}\ \frac{\frac{7}{5} - 1}{2} = \frac{\frac{7-5}{5}}{2}$$

$$= \frac{2}{10} \Rightarrow 0.2A$$

173.(A) $N_2 / N_1 = E_{b2} / E_{b1} \times \Phi_1 / \Phi_2$;

$\Phi_2 = 0.95\Phi_1$;

$E_{b2} = 0.9E_{b1}$

$\therefore$ $N_2 / 1140 = 0.9 \times 1/0.95$

$N_2 = 1080$

174. (B) Normally metallic substance has positve temperature coefficient. Gold is a metallic substance.

176.(B) Rotor copper losses = rotor input- rotor output and output = (1-s) input

$\therefore$ Input = output/(1-s) = 15000 /1-0.04 = 15625

$\therefore$ loss = 15625 -1500 = 625 watt

181. (C) The expression of capactive impedance is $\frac{V_c}{I_c} = Z_c = \frac{1}{2\pi fC}$

Here, V_c= 20 V, I_c = 12.6 mA and f = 1000 Hz.

$$\Rightarrow \quad C = \frac{12.6 \times 10^{-3}}{20 \times 2\pi \times 1000} = \frac{12.6 \times 10^{-3}}{126 \times 10^3} = 0.1\mu F.$$

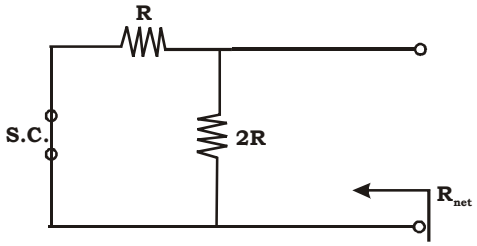
183. (C) $\because$ Ideal voltage has zero internal resistance,

$\therefore$ Time constant $\tau = RC = 0$

Hence capacitor will charge instantaneously.

184. (D) Time constant, $\tau = R_{net}.C$

R_{net} = Net resistance across capacitor when all the independent voltage sources are short cicuited and all independent current sources are open circuited.



$$R_{net} = R \| 2R = \frac{2}{3}R$$

Hence time constant,

$$\tau = \frac{2}{3}RC \text{ sec.}$$

185. (D)Corona, is helpful in one respect, namely, it reduces the effect of surges and acts as a relief valve for them. This is so because the surges are partially dissipated as corona.

190. (B) Power = 100 W

Time = 10 × 7 hrs. = 70 hrs.

Energy consumption = 100 × 70 W-hrs

= 7000 W-hrs= 7 KW-hrs

= 7 Units [1 KW-hr = 1 Unit].