Answer-key & Solution

SSC JE (Electrical)
MOCK -(96)
Date:- 6.5.2017

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

Correction Mock Test 94 - (109. B, 111. C, 107. C)

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. 96

1. (C) Forecast is related to future. In the same way regret is related to Past.
2. (D) Breeze is related to cyclone. In the same way Drizzle is related to Downpour
3. (C) B P M : G N J :: V M G : A K D
   (+5, -2, -3) (+5, -2, -3)
4. (D) 6 : 222 :: 7 : **350**
   $6^3 + 6 = 222$ $7^3 + 7 = 350$
5. (D) Much is related to many. In the same way Measure is related to count.
6. (A) All have an Indian National Park except sangpo.
7. (D)

K P	B Y	D W	H U
11 + 16	2 + 25	4 + 23	8 + 21
27	27	27	29

   All are opposite letters except option 'D'
8. (A) All are multiple of 19 except 306
9. (D) All option solve in the following way-
   (Ist number) × 3 + 5 = IInd number
   Except 10 : 54
   $10 \times 5 + 4 = 54$
10. (B) Mustard is an oil seed.

(11-15):

SOUND	ikmop	A → v
ADDRESS	blooppv	C → j
CRUX	cjmv	D → o
NET	abi	N → i
CRONY	ijktv	S → p
CROWDY	jkgotv	

11. (C) With the help of common letters, we find the code.
16. (A) 7 (×4-11) 17 (×3-11) 40 (×4-11) **149** (×3-11) 436
17. (D) 4 8 28 80 244 728
    3^1+1 3^2-1 3^3+1 3^4-1 3^5+1 3^6-1
18. (B) 1000 1100 990 **1089** 980.1
    (+10% of 1000) (-10% of 1100) (+10% of 990) (-10% of 1089)
19. (D) _ A D A C B _ _ B D C C
    1 3 _ _ 1 2 4 2 _ _ _ _
    a _ _ b _ _ c d **d c a a**
    B → 2 → d
    C → 1 → a
    A → 3
    D → 4 → c
20. (A) B _ _ D _ _ C A B D A C B
    _ _ 4 1 3 2 _ _ _ **1 2 3 4**
    a _ a _ b c _ c _ _ _ _ _
    D → 1 A → c → 2 B → a → 4 C → 3 → b
21. (C) Son-in-law of my friend's mother = My friends husband
    Their daughter = My friend's daughter i.e my niece
22. (D) B (+) ← Brother ← D (−); D → Sister → E (+); K → Sister → F (−); F → Brother → E
    Hence, we can't say about relationship of K to B. K is either brother or sister of B
23. (B) In this Question
    1 ↔ (Opp.) 5
    2 ↔ (Opp.) 3
    Therefore
    4 ↔ (Opp.) 6
    But opposite face will never be adjacent to each other
    ∴ Option 'B' is possible.
24. (A) Ornaments: Gold, Silver
25. (A)

17	24	13
14	6	**16**
117	70	102

    $(17 \times 14) \div 2 = 119$
    $119 - 2 = 117$
    $(24 \times 6) \div 2 = 72$
    $72 - 2 = 70$
    Similarly,
    $(13 \times x) \div 2 = \frac{13x}{2}$
    $\frac{13x}{2} - 2 = 102$

$\Rightarrow \frac{13x-4}{2} = 102$

$\Rightarrow x = 16$

$\Rightarrow 13x - 4 = 204$

$\Rightarrow 13x = 208$

$\Rightarrow x = 16$

26. (*)

3 / 2 (193) 4 / 5	7 / 3 (321) 6 / 2	4 / 6 (**438**) 8 / 3
$(3+4+5+2)^2-3$	$(7+6+2+3)^2-3$	$(4+8+3+6)^2-3$
196-3=193	324-3=321	441-3=438

27. (B) $72 \div 6 + 3 \times 5 - 3 = 85$
$72 - 6 \div 3 + 5 \times 3 = 85$
$72 - 2 + 15 = 85$
$85 = 85$

28. (A) C O M M E R C I A L
2 (O–M), 1 (M–E), 3 (E–C), 4 (R–A), 5 (C–L)

Five pair of letters are possible

29. (B) <u>For Non-leap year</u>

Month-	Jan	Feb	March	April	May	June
code -	0	3	(3)	6	1	4

Month-	July	Aug	Sept	Oct	Nov	Dec
code -	6	2	5	0	(3)	5

<u>For a leap year</u>

Month-	Jan	Feb	March	April	May	June
code -	0	3	(4)	0	2	5

Month-	July	Aug	Sept	Oct	Nov	Dec
code -	0	3	6	1	(4)	6

The calender of March and November will be same because the codes of both the months are same.

30. (C) 28 Nov. 1970 — 71 — 72 — 73 — 74 — 75
Excess day: 1 (1970), +2 (71), +1 (72), +1 (73), +1 (74)

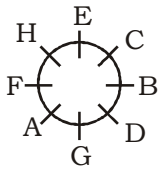
75 — 76 — 77 — 78 — 79 — 80 — 81
+2 (75), +1 (76), +1 (77), +1 (78), +2 (79), +1 (80)

Total excess days = 14

$\frac{14}{7} = 2$

Hence next birthday on Sunday will come in the year 1981.

(31- 32):



33. (C) Let the number of persons = number of horses = x

The number of persons walking = $\frac{x}{2}$

and number of horses walking = x
Number of legs of person = 2
and number of legs of one horses = 4

Again, $\left(\frac{x}{2} \times 2\right) + (x \times 4) = 70$

or, $x + 4x = 70$
or, $5x = 70$

$\Rightarrow x = \frac{70}{5} = 14$

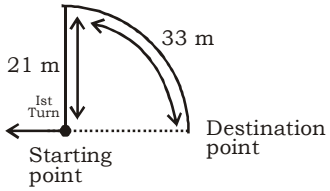
Hence, number of horses = 14

34. (D) $0 \times 1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 = '0'$

36. (B) Only II is Implicit

37. (C) neither I nor II follow.

38. (A)



21 + 33 = 54

39. (B) Both hands of a clock make an angle of 90° twice in one hour but between 2 and 4 this is possible only 3 times
So, $1 \leftrightarrow 2 \leftrightarrow 3 \leftrightarrow 4 \leftrightarrow 5$
2 + 3 + 2
= 7 times

41. (D) No such number is there.

101.(C) Illumination $= \frac{C.P}{r^2}\cos\theta$

$r^2 == \frac{30}{15} = 2$

r = 1.414 m

102.(D) Iuminous form emitted below the horizontal.

$F = 2\pi I$
$= 2\pi \times 750$
$= 1500\pi$ lumen

109.(A) $X_L = 2\pi fL = 100\pi$

$I = \frac{220}{100\sqrt{2}} \quad 2 = 100\sqrt{2}$

$V_L = IX_L$

$= \frac{220}{100\sqrt{2}} \times 100$

$= \frac{220}{\sqrt{2}}$

114.(D) $= 200 \times -(0.05 \times 2t - 0.05 \times 2)$

$= -(20t - 20)$

$= -20(t - 1)$

117.(A) $V_t = 1.5$ pu

$X_p = 1$ pu

$X_L = 0.3$ pu

$$P_m = \frac{E_f V_t}{1.3} = \frac{1.5 \times 1.0}{1.3} = 1.154\ pu$$

118.(A) Current setting = 125%

CT = 40015

Pick-up current

$= \frac{5 \times 125}{100} = 6.25A$

123.(B) $g_m = -\frac{2I_{DSS}}{\upsilon_p}$

$= \frac{2 \times 9 \times 10^{-3}}{3} = 6ms$

130.(B) $P_m = 30MW$ $\qquad L_f = \frac{P_{avg}}{P_m}$

$L_f = 0.6$ $\qquad P_m \times L_f = P_{avg}$

pr $\qquad P_{avg} = 30 \times 0.6 = 18$ MW

$f_c = \frac{P_{avg}}{P_c}$

$P_C = \frac{18}{0.48} = 37.5\,MW$

$P_r = P_C - P_m$

$= (37.5 - 30) = 7.5$ MW

137.(A) Y - Δ 230/2300V

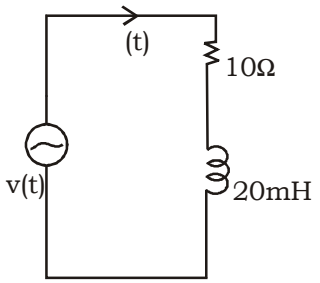
$I_{ph} = \frac{P}{3V_{ph}}$

$= \frac{230K}{3 \times 2300}$

$= \frac{100}{3}$

$I_{ph} = 33.33A$

149.(B)



$i(t) = 4\sin(500t)$, $\theta = 45°$

$v(t) = ?$

$X_L = 20 \times 500$

$X_L = 10\Omega$

$R = 10\Omega$

$Z = 10\sqrt{2}$

$V = 4 \times 10\sqrt{2}\sin(500t + 45°) = 56.56\sin(500t + 45°)$

151.(D) $n = x^2 + 3x + 1$

$= 9 + 9 + 1$

$= 19$

153.(B)

$$P_{avg} = \frac{1500 \times 12 + 1000 \times 12}{24} = \frac{2500}{24} = 1250KW$$

$P_m = 1500$

$L_f = \frac{P_{avg}}{P_m}$

$L_f = \frac{1250}{1500} = 0.833$

154.(C) at initiatly

X – 1pu

V – 1pu

I – 1pu

and at fault point $I_f = 8$ pu

So $X = \frac{1}{8}\,pu = 0.125\,pu$

and after adding the reactance fault current is = 5pu

So Total reactance is = 0.2 pu

Then adding reatance is

$= (0.2 - 0.125)$

$= 0.075$ pu

171.(B) Back pitch - A cail advances on the back of the armature. This advancement is measured in terms of armature conductors and is called back pitch.

$$\gamma_B = \frac{z}{p}$$

$$= \frac{72}{4} = 18 + 1$$

$$\gamma_b - \gamma_f = 2$$

$$\gamma_b - 2 = \gamma_f$$

$$\gamma_f = 17$$

$$\Rightarrow 19, 17$$

177.(B) 25KVA, 2000/200V

$$I_1 = \frac{25K}{2000} = 12.5A$$

$$I_2 = \frac{25K}{200} = 12.5A$$

S_{out} = 2200 × 125
= 275 KVA

178.(A) VR = 0.2 × 0.8 + 0.6 × 06
= 0.16 + 0.36
= 0.52 pu

192.(D) $T \propto x^2$

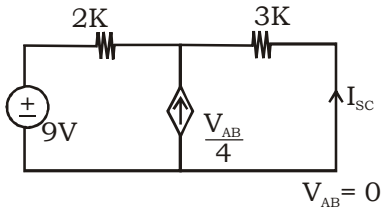
$$\frac{T_1}{T_2} = \left(\frac{x_1}{x_2}\right)^2$$

$$\frac{(80)}{T_2} = \left(\frac{0.3}{0.6}\right)^2$$

T_2 = 80 × 4
= 320 Nm

193.(B) $P_{loss} = V^2\, 2\pi fC \tan\delta$
= 400 × 400 × 314 × 100 × 10^{-6} × 0.01
= 50.2 W

197.(A)



V_{AB} = 0

$$\frac{V_{AB}}{4} \times 2 - 90 = 0$$

$V_{Th} = V_{AB}$ = 18 V

$$I_{SC} = \frac{9}{3002}$$

$$R_{th} = \frac{V_{th}}{I_{SC}} = \frac{18}{9/3002} = 6004\Omega$$