Answer-key & Solution

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

Correction Mock Test - 131 (Q. 157. D, 180. B, 199. D)

Note : *If your opinion differ regarding any answer, please message the mock test and Question number to 9821756838*

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

SOLUTION SSC JE (Elecrtrical) MOCK TEST no. 132

1. (B) Towel is to bathtub as chest of drawers is to bed. The towel and bathtub are found in a bathroom. The chest and the bed are found in a bedroom.

2. (B) A cobbler makes and repairs shoes. A contractor builds and repairs buildings.

3. (B) Hunger can be satiated with food. Similarly, Disease can be warded off by medicine.

4. (B) The first word is Antonyms of second word.

5. (C) A skein is a quantity of yarn. A ream is a quantity of paper.

6. (C) The number has been written in reverse order.

7. (D) A pen is used by a poet. A needle is used by a tailor.

8. (C)
A C E H I L

+7, +6, +7

Similarly, M O Q **T** **U** **X**

+7, +6, +7

9. (A) The saw and the nails are tools used by a carpenter. The stethoscope and thermometer are used by a pediatrician.

10. (A) $4 : 32 :: 7 : \mathbf{98}$

$4^2 \times 2 = 32$ $7^2 \times 2 = 98$

11. (B) In all other groups, the third, first and second letters are in alphabetical order.

12. (D) All except Paragon are evil-doers

13. (C) All except Character are external qualities.

14. (B) In all other numbers, the sum of second and last digits is twice the sum of first and third digits.

15. (B) Except Mole hills rest are the mountains whereas Mole hills is a small mound ridge on earth raised by Mole.

16. (A) 83 is the only prime number in the group.

17. (D) In all other pairs, the second number is one less than the square if the first number.

18. (B) All except Chandelas were associated with ancient kingdoms in southern India, While Chandelas formed a kingdom in north India.

19. (A) Seven pieces consist of 6 smaller equal pieces and one half cake piece.
Weight of each small piece = 20 gm
So, total weight of the cake = 2 (20 × 6)
= 240 gm

20. (D) It is clear that the sex of A cannot be determined.

21. (B) The letter is the first half and the other half are separately reversed to obtain the code.

22. (C) Number of persons between Amrita and Mukul = 50 - (10 + 25) = 15.
Since Mamta lies in middle of these 15 persons.
So, Mamta's position is 8th from Amrita i.e. 18th from the front.

23. (A) (15 × 2 – 3) = 27, (31 × 2 – 6) = 56
and (**45** × 2 – 9) = 81

24. (B) $(2)^2 + (4)^2 = \mathbf{20}$
$(3)^2 + (9)^2 = \mathbf{90}$
Therefore, $(1)^2 + (5)^2 = \mathbf{26}$.

25. (C) All numbers are cubed,
$(7)^3 = 343$
$(1)^3 = 1$
$(3)^3 = 27$
Similarly, $(5)^3 = \mathbf{125}$.

26. (D)

1. *5*   2. *5*

27. (A) The required number of sweets will be such that it leaves a reminder of 1 when divided by 2, 3 or 4 and no reminder when divided by 5. Such a number is 25 among the options.

28. (A) The colour of milk is 'white' and as given 'white' is called 'sky'.
So, the colour of milk is 'sky'.

29. (A) P × R – Q means P is the brother of R who is the wife of Q i.e. P is the brother-in-law of Q.

30. (B) I → G R M
II → M A S
Combining I & II
G R M A S
Gaurav won the race.

31. (C) 6 7 9 5 6 9 7 **6** 8 7 **6** 7 8 6 9 4 6 7 7 6 9 5 7 **6** 3

32. (B) Using the correct symbols, we have the given expression :-
40 + 12 ÷ 3 × 6 – 60 = 40 + 4 × 6 – 60
= 40 + 24 - 60 = 4.

33. (D) The correct order is :

Tree	Branch	Leaves	Flower	Fruit
4	2	1	3	5

34. (C) Number of dots on the top faces of the dice (II), (IV) and (VI) are 1, 1 and 1 respectively. Number of dots on the top faces of the dice (I), (III) and (V) are 5, 5 and 3 respectively.
Number of dots on top faces = 5 + 5 + 3 + 1 + 1 + 1 = 16

35. (B) On interchanging – and ÷, we have the equation as
$5 + 3 × 8 ÷ 12 – 4 = 3$
or $5 + 3 × 2/3 – 4 = 3$
or $3 = 3$, which is true.

36. (D) Total runs scored = (36 × 5) = 180.
Let the runs scored by E be x.
Then, runs scored by D = $x + 5$
Runs scored by A = $x + 8$
Runs scored by B = $x + x + 5 = 2x + 5$
Runs scored by C = (107 – B)
= 107 – (2x + 5) = 102 – 2x.
∴ Total runs = (x + 8) + (2x + 5) + (102 – 2x) + (x + 5) + x = 3x + 120.
∴ 3x + 120 = 180 ⇒ 3x = 60 ⇒ x = 20.

37. (C)
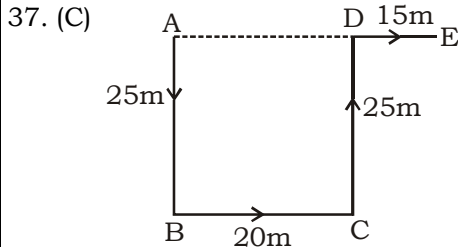
The movements of Rohit are shown in figure.
Rohit's distance from the starting point A
= AE = AD+DE = 20 + 15 = 35 metres
The direction with reference to the starting point is east

38. (D) Blood Relation Analysis :
Father of my daughter's Father = Deepak's Father
Brother of Deepak's father = Deepak's Uncle

39. (D)

Similarly,

40. (D) Series 1: 5, 7, 10, 14
Series 2: 6, 8, 11, ...
In series 2 pattern is +2, +3, Next will be +4
So required number in the series will be 11+4 = 15

41. (C) The series is **b**bcc**a**a / c**c**aabb / **a**ab**b**cc.

42. (C) Series 1 : 8, 7, 6, (..)
Series 2 : 9, 10, 11, 12
Series 3 : 8, 9, 10
In series 1 pattern is the every number is decreasing by 1.
So, missing term = 6 – 1 = 5

43. (D) All the letters of each term are moved five steps forward to obtain the corresponding letters of the next term.

44. (D)

45. (C)

46. (C)

47. (C) The figure may be labeled as shown.
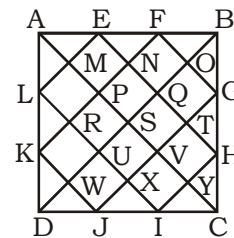
The simplest triangles are AML, LRK, KWD, DWJ, JXI, IYC, CYH, HTG, GOB, BOF, FNE and EMA i.e. 12 in number.
Triangles composed of two components each are AEL, KDJ, HIC and FBG i.e. 4 in number.
Triangles composed of three components each are APF, EQB, BQH, GVC, CVJ, IUD, DUL and KPA i.e. 8 in number.
Triangles composed of six components each are ASB, BSG, CSD, DSA, AKF, EBH, GGJ and IDL i.e. 8 in number.
Triangles composed of twelve components each are ADB, ABC, BCD and CDA i.e. 4 in number.
Total number of triangles in the figure = 12 + 4 + 8 + 8 + 4 = 36.

48. (B)

49. (B)
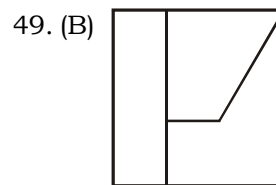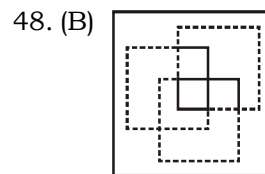
50. (B)

53. (B) Gymnosperm is a plant, such as a cycad or conifer, whose seeds are not enclosed within an ovary. In gymnosperms, no special structure develops to enclose the seeds, which begin their development 'naked' on the bracts of cones.

57. (D) Electronic mail or e-mail is a method of exchanging digital messages from an author to one or more recipients. It can be used to send documents, videos, audios etc, depending on the limit allowed by the mail service provider.

59. (D) Kaushik Basu is an Indian economist who is Senior Vice-President and Chief Economist of the World Bank. He is on leave from Cornell University where he is the C. Marks Professor of International studies and Professor of Economics.

61. (D) Prior to his election as President, Pranab Mukherjee was Union Finance Minister from 2009 to 2012. He is the 13th and current President of India, in office since July 2012.

62. (C) Karnataka, Kerala and Tamil Nadu are the three leading coffee producing states of India. Among the non-traditional areas, Andhra Pradesh and Odisha have dominant position in this respect (Coffee Board, Ministry of Commerce & Industry).

63. (A) Red light is used in traffic signal because it has the longest wavelength and is refracted least. Violet light has the shortest wavelength and is refracted most.

68. (D) Nitrobacter plays an important role in the nitrogen cycle by oxidizing nitrite into nitrogen in soil. It uses energy from the oxidation of nitrite ions, NO_2 - into nitrate NO_3-to fulfill their energy needs.

71. (D) Razia Sultana was the first and last women ruler of Delhi Sultanat (from 1236 to May 1240). She was the daughter of Shams-ud-din Iltutmish who was the founder of the Delhi Sultanate and the third ruler of the Slave dynasty.

72. (D) The 2013 Booker Prize for Fiction was awarded on 15 October 2013 to Eleanor Catton for her novel 'The Luminaries'. The Man Booker Prize promotes the finest in fiction by rewarding the best book of the year.

78. (C) The President addresses the joint sittings of Parliament in the Central Hall. The President addresses a joint session of Parliament during the first session in the year. The speech is written by the government of the day which he simply reads out.

79. (D) Kerosene floats on water because it is immiscible [because one has polar molecules (water) while the other has non-polar molecules (kerosene)] with water and its density is lower than of water. The density of water and kerosene are is 1 g/cm^3 and 0.78–0.81 g/cm^3 respectively.

80. (A) The area of given states in ascending order is as follows:-
Tamil Nadu : 130,058 km^2.
Andhra Pradesh : 160, 205 km^2.
Karnataka : 191, 791 km^2.
Gujarat : 196, 021 km^2.

81. (D) The banana plant is called a 'banana tree'; it is technically a herbaceous plant (or 'herb') not a tree, because the stem does not contain true woody tissue. It is an edible fruit, botanically a berry, produced by several kinds of large herbaceous flowering plants in the genus Musa.

82. (C) The Boundary Commission of 1974 was chaired by sir Cyril Radcliffe. The Radcliffe Line was published on 17 August 1974 as a boundary demarcation line between India and Pakistan. Sir Henry McMahon chaired the commission to decide the boundary between Chinese-held and Indian-held territory in the eastern Himalayan region.

83. (C) The Fundamental Rights in our constitution were inspired by the American Constitution. Other features borrowed from the American Constitution are: Written Constitution, Vice-President as the ex-officio Chairman of Rajya Sabha, independence of Judiciary and judicial review, etc.

85. (C) Mean fundamental frequency, which is associated with the perceptual notion of pitch, is commonly considered as the major difference between adult male and female voices. Pitch of a man's voice falls under low frequency, whereas woman's voice is of the high pitch type.

86. (D) DNA stands for Deoxyribonucleic acid. It is a nucleic acid. Alongside proteins and carbohydrates, nucleic acids compose the three major macromolecules essential for all known forms of life.

87. (A) ATM stands for Automated Teller Machine. It is an electronic telecommunications device that enables the customers of a financial institution to perform financial transactions without the need for human cashier, clerk or bank teller.

88. (C) After the Great Crash of 1929 (Great Depression), the American public sought a scapegoat for the economic collapse. Some held President Hoover responsible; and others targeted the 'three B's' – brokers, bankers and businessmen.

90. (B) Disguised unemployment exists where part of the labour force is either left without work or is working in a redundant manner where worker productivity is essentially zero. An economy demonstrates disguised unemployment where productivity is low and where too many workers are filling too few jobs.

91. (B) Beriberi refers to a cluster of symptoms caused primarily by a nutritional deficit in vitamin B_1 (Thiamine). It has been endemic in regions dependent on what is referred to as polished, white, or de-husked rice.

94. (A) The common air pollutants are particulate matter, ozone, carbon monoxide, sulphur oxides, nitrogen oxides and lead. Carbon dioxide from the burning of fossil fuels is also responsible for the greenhouse effect.

95. (D) Isodynamic line is an imaginary line or a line on a map connecting points on the earth's surface at which the horizontal magnetic intensity is the same called also isogam. It connects points on the Earth where the strength of the Earth's magnetic field is the same.

100. (B) Gross National Product (GNP) is the gross value of all the final products without deducting the depreciation of fixed capital. The net national product (NNP) is calculated by deducting depreciation from the gross national product, i.e..

NNP = GNP – Depreciation.

103. (D) $V(t) = 12t^3$

$$I_L = \frac{1}{L}\int_o^t V.dt$$

$$= \frac{1}{L}\int_0^t 12t^3\, dt$$

$i(t) = 3t^4$

119. (A) $u(t) = 3 + 4\cos(3t)$

$$u(t)_{rms} = \sqrt{3^2 + \left(\frac{4}{\sqrt{2}}\right)^2}$$

$$= \sqrt{17}$$

120. (A) $V_{rms} = \sqrt{\dfrac{1}{T}\int_0^T v(t)^2\, dt}$

$$= \frac{1}{T} \times \frac{4}{T^2}\int_0^{T/2} t^2\, dt$$

$$\frac{4}{T^3} \times \left(\frac{t^3}{3}\right)_0^{T/2}$$

$$V_{rms} = \sqrt{\frac{1}{6}}$$

121. (B) $V(t) = 160\sin(\omega t + 10)$
$i(t) = 5\sin(\omega t - 20)$
$Q = VI\sin\phi$
$\phi = 30°$

$$= \frac{160}{\sqrt{2}} \times \frac{5}{\sqrt{2}}\sin 30°$$

= 200 VAr

123. (A) $V_{RL}^2 = V_R^2 + V_L^2 = 400V$

$V_{CL}^2 = (V_L - V_C)^2 = 81V$

$V_{RLC}^2 = V_R^2 + (V_L - V_C)^2 = 225V$

$V_R^2 = 225 - 81 = 144$

$V_R = 12V$

$V_L^2 = 400 - 144$

$V_L^2 = 256$

$V_L = 16\,V$

$V_L - V_C = 9$
$V_C = 16 - 9$
$V_C = 7V$

124. (B) $R_{eq} = 2\Omega$
P = 8w

$P = \dfrac{V^2}{R}$

V = 4V

125.(D) $I_C = 4$ A ...(i)

$I_R^2 + I_C^2 = 25$ ...(ii)

$I_R^2 + (I_L - I_C)^2 = 25$ ...(iii)

$I_R^2 = 25 - 16$

$I_R = 3A$

$9 + (I_L - 4)^2 = 25$

$(I_L - 4)^2 = 16$

$-4 + I_L = 4$

$I_L = 8$ A

127.(D) $R_e = \dfrac{\Delta\omega}{\omega_0^2 \times C}$

$= \dfrac{f_\Delta}{2\pi f_0^2 \times C}$

$= \dfrac{10K}{2 \times 3.14 \times 1.5 \times 1.5 \times 150}$

$= 4.7\Omega$

132.(C) P = 8

Z = 32 × 6 = 192 × 2 = 384

ϕ = 0.06 wb

N = 250 rpm

$E_a = \dfrac{NP\phi Z}{60A}$

$= \dfrac{250 \times 8 \times 0.06 \times 192 \times 2}{60 \times 2}$

E_a = 384 V

135.(C) V_t = 200 V

P = 1.8 KW

R_a = 0.4Ω

R_{sh} = 200Ω

$E_g = V_t + I_a R_a$

$= V_t + (I_L + I_{sh})R_a$

$= 200 + \left(\dfrac{1800}{200} + \dfrac{200}{200}\right)0.4$

$= 200 + (9 + 1) \times 0.4$

E_g = 204 V

136.(C) $P_e \propto f^2$

$P_h \propto f$

$\dfrac{P_{e_1}}{P_{e_2}} = \dfrac{f_1^2}{f_2^2} = \dfrac{100}{P_{e_2}} = \dfrac{(50)^2}{60^2}$

$P_{e_2} = 144\,W$

$\dfrac{P_{h_1}}{P_{h_2}} = \dfrac{50}{60} = \dfrac{200}{P_{h_2}}$

$P_{h_2} = 240$

$P_i = P_e + P_h$

= 144 + 240

= 384 W

138(A) $Z_b = \dfrac{(5 \times 10^3)^2}{5 \times 10^6}$

Z_b = 5 ohm

139.(A) $KVA_{max} = KVA \times \sqrt{\dfrac{500}{2000}} = 250KVA$

147.(C) P_g = 10KW

P_{sh} = 8 KW

P_C = 10 − 8

= 2 KW

189.(D) $\dfrac{f_V}{f_H} = \dfrac{T_H}{T_V}$

$X = \dfrac{3}{2}$

$Y = \dfrac{1 + \dfrac{1}{2}}{1}$

$Y = \dfrac{3}{2}$

190.(B) T = 30 × 6 = 180 µs

$f = \dfrac{1}{T}$

$= \dfrac{1}{180 \times 10^{-6}}$

= 5.55 KHz

199.(D) meter constant

$= \dfrac{10 \times 3600}{0.45 \times 100} = 800\,rev\,/\,KWh$