Answer-key & Solution

SSC JE (Mech)
Practice Set-10

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

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 (Mechanical) Practice Set-10

1.(C) Andhra Pradesh is called 'Rice bowl of India'. Similarly, Mumbai is called 'Manchester of India'.

2.(D) Calcium is found in milk. Similarly, protein is found is pules.

3.(A) $36 : 144 :: 576 : 2304$
$(6)^2 \xrightarrow{\times 2} (12)^2 \quad (24)^2 \xrightarrow{\times 2} (48)^2$

4.(D) $55 : 26 :: 13 :: 4$
$55 \xrightarrow{(5 \times 5+1)} 26 \quad 13 \xrightarrow{(1 \times 3+1)} 4$

5.(C)

6.(C) The addition of the digits 11529 = 1 + 1 + 5 + 2 + 9 = 18, 72135 = 7 + 2 + 1 + 3 + 5 =18 and 152943 = 1 + 5 + 2 + 9 + 4 + 3 = 24.
Similarly, the addition of the digits 213549 will be = 2 + 1 + 3 + 5 + 4 + 9 = 24

7.(D) $8 : 28 :: 27 : 65$
$(2)^3 \quad (3^3+1) \quad (3)^3 \quad (4^3+1)$

8.(B)

9.(C)

10.(D) B D A C : F H E G :: N P M O : R T Q S
(+1, +1 within each group)

11.(B)

12.(D)

13.(B) Remaining are related to circle

14.(C) (A) Z X V T (-2, -2, -2) (B) U S Q O (-2, -2, -2)
(C) D E F G (+1, +1, +1) (D) P N L J (-2, -2, -2)

15.(A) (A) A F C G (+5, -3, +4) (B) D I G L (+5, -2, +5)
(C) I N L Q (+5, -2, +5) (D) O T R W (+5, -2, +5)

16.(C) (A) $6 : 34$ ($\times 5 + 4$) (B) $12 : 64$ ($\times 5 + 4$)
(C) $20 : 96$ ($\times 5 - 4$) (D) $09 : 49$ ($\times 5 + 4$)

17.(A) Others produce something new, but barber does not make any new thing.

18.(B) (A) 62 - 37 = 25
(B) 74 - 40 = 24
(C) 85 - 60 = 25
(D) 103 - 78 =25

19.(B)

20.(C) All others have '=' sign too.

21.(C) A G M B H N C I O D J P
(+1, +1, +1 between groups; +1 within groups)

22.(B) 2 7 27 107 427
(×4-1) (×4-1) (×4-1) (×4-1)

23.(D) 5 7 11 19 35 67
(+2, +4, +8, +16, +32; ×2, ×2, ×2, ×2)

24.(B) 242 393 4164 5255
(+1, +1, +1 between groups)
and the middle digit is the product of side digits.

25.(A) 26.(A) 27.(C)

28.(A) 52937239241372654124632 87

29.(D)(A) P R T V X Z (+2, +2, +2, +2, +2)
(B) Z B D F H J (+2, +2, +2, +2, +2)
(C) C E G I K M (+2, +2, +2, +2, +2)
(D) M O R T V X (+2, +3, +2, +2, +2)

30. (A) Paragraph (5) Paramedic (2) Paramount (1) Parasite (3) Parasitic (4)

31. (A) Story (3) Script (5) Dialogue (1) Shooting (2)

Editing	Preview	Screening
4	6	7

32.(A) According to Ist statment,

$\Rightarrow$ According to Age,

Fatima > Banu> Anehu ..... (i)

Again,

According to 2nd statement,

caroline $= \frac{\text{Anehu}}{2}$ = 2× Daina

$\Rightarrow$ According to Age,

Anehu > Caroline > Daina.....(ii)

So, From (i) and (ii)

we get,

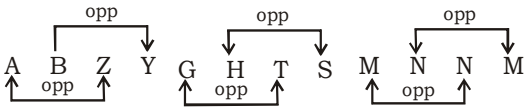
The oldest person is Fatima & the youngest person is Daina

33.(D) ef/ee f f/eee f ff/e ee e/f f ff

34.(B) c a/cca a/ccca a a/ cccc/ a aaa

35.(D) We do not know the nature of the year whether it is leap year or not. So we can not get the answer.

36.(C)



37.(A) Total strength of the class = (31+ 11-1) + 3 (Not appeared) + 1 (failed)

= 31 + 10 + 3 +1 = 45

3 8 . (B)

P O R R I D G E→E G P O D I R R

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑧ ⑦ ① ② ⑥ ⑤ ④ ③

Similarly,

P R E S T I G E→E G P R I T S E

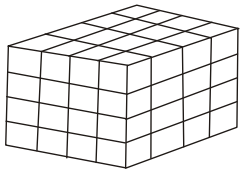
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑧ ⑦ ① ② ⑥ ⑤ ④ ③

39.(A) In 1 hour distance = 25 + 35 = 60 kms

in 15 minutes distance = $\frac{60}{4}$ = 15 kms

40.(C)

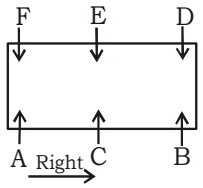
41.(C)



Total number of cubes = $x^3 = 4^3 = 64$

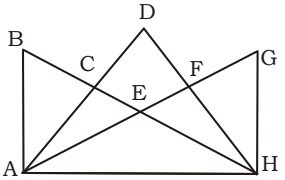
42.(A) 43.(A)

44.(D)



45.(C) 46.(D)

47.(C)



There are 14 traingles in the above diagram- ABC, ACE, AEH, EFH , FGH, ABE, ACH, EGH, ADF, CDH, AFH, ABH, ADH and AGH.

48.(B)

50.(C) The numerical groups of the given word-

H- 03, 10, 22, **34**, 41

E- 00, **12**, 24, 31, 43

N- 57, 69, 76, **88**, 95

104. (B) Kinetic energy equals the work done by the force of friction. That is

$$\frac{1}{2}mv^2 = \mu\, mg \times s \qquad (F = .00\ R = .00\ mg)$$

$$\mu = \frac{v^2}{2gs} = \frac{6\times 6}{2\times 10\times 5} = 0.36$$

108. (A) $\delta = \delta_1 + \delta_2 = \frac{pl_1}{A_1E_1} + \frac{pl_2}{A_2E_2}$

$$0.25 = P\left[\frac{350}{(50\times 50)\times(2\times 10^5)} + \frac{350}{(100\times 100)\times(0.7\times 10^5)}\right]$$

$= P\,[0.07\times 10^{-5} + 0.05\times 10^{-5}]$
$= P\,(0.12\times 10^{-5})$

or $P = \frac{0.25}{0.12\times 10^{-5}} = 2.08\times 10^5 N$

110. (A) $R_A = R_B = 4T$
Consider any section of the beam in the portion CD and take resultant of forces on the left side of the section.
Shear force at centre of beam,
$R_A - 2\times 2 = 4 - 4 = 0$

116. (D) $\frac{N_2}{N_1} = \frac{d_1}{d_2}\left[1 - \frac{s_1}{100} - \frac{s_2}{100}\right]$

$$\frac{V_2}{V_1} = 1 - \frac{s_1}{100} - \frac{s_2}{100} \qquad (d_1 = d_2)$$

$$= 1 - \frac{1}{100} - \frac{3}{100} = 0.96$$

118. (D) The effort of a governor is the mean force exerted at the sleeve for a given percentage change in speed.

$$Effort = 300 \times \left(\frac{200-150}{150}\right) = 100\ N$$

120. (A) $Change\ in\ kE = \frac{1}{2}I\left(\omega_1^2 - \omega_2^2\right)$

$$400 = \frac{1}{2}\times I\,[210^2 - 190^2] = 4000\ I$$

$$I = \frac{400}{4000} = 0.1\ kgm^2$$

163. (B) For turbulent flow in rough pipes, the coefficient of friction is a function of relative roughness and it is independent of Reynolds number. This is because the value of laminar sub-layer for rough pipe is very small as compared to height of surface roughness. The friction factor for rough pipes is generally taken as:

$$\frac{1}{\sqrt{4f}} = 2\log_{10}\left(\frac{R}{k}\right) + 1.74$$

where k is the average height of the irregularities protecting from the surface and R is the ipe radius.

199. (A) The main purpose of reheating is to avoid excess moisture in steam at the end of expansion to protect the turbine. But it need not improve the cycle efficiency. That will depend (as Dmitri said) upon whether the mean temperature of reheat addition is > or < the mean temperature of heat addition before reheat.