



**K D Campus Pvt. Ltd**

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

**Answer-key & Solution**

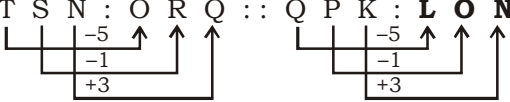
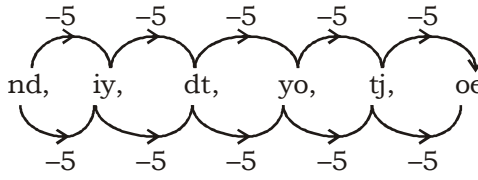
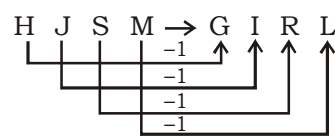
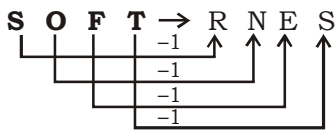
**SSC JE (Electrical)  
Practice Set-18**

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

1. (B)  $64 : 513 :: 144 : 1729$   
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $8^2 \quad 8^3+1 \quad 12^2 \quad 12^3+1$
2. (D)
3. (C) Both nautilus and fish live in water and have some what same appearance. In the same way duck and teal also live in water and have same appearance.
4. (A) The second one is the extreme form of the first.
5. (D) T S N : O R Q :: Q P K : L O N  

6. (C)
7. (D) 15 30 45 90 135 270 405  
 $\times 2 \uparrow \times 1.5 \uparrow \times 2 \uparrow \times 1.5 \uparrow \times 2 \uparrow \times 1.5 \uparrow$
8. (C) nd, iy, dt, yo, tj, oe  

9. (A) Z A U F P K  
 $\downarrow \text{opp} \uparrow \downarrow \text{opp} \uparrow \downarrow \text{opp} \uparrow$
10. (D) 1 13 37 73 121  
 $\uparrow +12 \quad \uparrow 24 \quad \uparrow +36 \quad \uparrow +48$   
 $\uparrow +12 \quad \uparrow +12 \quad \uparrow +12$
11. (A) 8 27 125 343 1331  
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$   
 $2^3 \quad 3^3 \quad 5^3 \quad 7^3 \quad 11^3$
12. (A) 11 23 48 99 202 409  
 $\times 2+1 \uparrow \times 2+2 \uparrow \times 2+3 \uparrow \times 2+4 \uparrow \times 2+5 \uparrow$
13. (C) 4 8 24 96 480  
 $\times 2 \uparrow \times 3 \uparrow \times 4 \uparrow \times 5 \uparrow$
14. (A) Only tellurium is a metalloid. Others are metals.
15. (B) H J S M → G I R L  
  
 Similarly,  
 S O F T → R N E S  

16. (A) Required angle =  $M \times \frac{11}{2} - H \times 30$   
 $= 40 \times \frac{11}{2} - 3 \times 30$

17. (D)  $= 220 - 90 = 130^\circ$   
Attended

$\frac{40}{100} \times 50 = 20$  girls

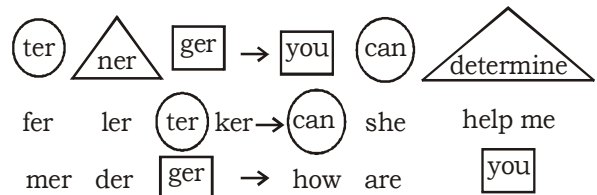
$\frac{50}{100} \times 70 = 35$  boys.

% attended =  $\frac{\text{Attended}}{\text{Total}} \times 100$

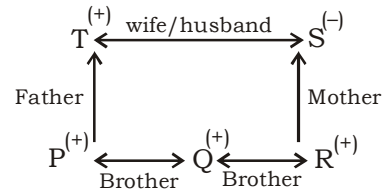
$\frac{20 + 35}{50 + 70} \times 100$

$\frac{55}{120} \times 100 = \frac{550}{12} = 45.83 \approx 46\%$

18. (D)

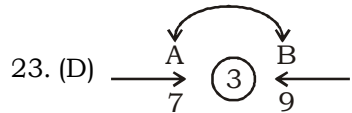
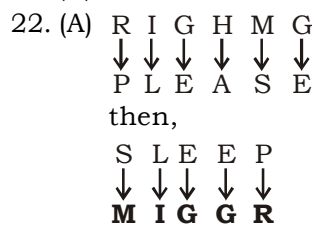


19. (B)



20. (B) cabbac/abbac/cabbac

21. (B)



Total person in the row  
 $7 + 3 + 9 = 19$

24. (D)  $A + B = A \leftarrow \text{Sister} \rightarrow B$   
 $A - B = A \leftarrow \text{Brother} \rightarrow B$   
 $A \times B = A \leftarrow \text{Daughter} \rightarrow B$

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25. (B)  $P + Q \rightarrow$  P is the brother of Q.  
 $P \times Q \rightarrow$  P is the mother of Q.  
 $P \div Q \rightarrow$  P is sister of Q.

26. (C)

|               | A | B | C | D | E |
|---------------|---|---|---|---|---|
| Green covers  | x | √ | √ | x | √ |
| Yellow covers | √ | x | x | √ | x |
| New volumes   | √ | √ | x | √ | x |
| Old volumes   | x | x | √ | x | √ |
| Law reports   | √ | √ | √ | x | x |
| Gazetteers    | x | x | x | √ | √ |

27. (D) Amar  
 Nitin  
 Keshav  
 Vijay  
 Kishan

28. (A) PREY, PERY

29. (D) S T R E A M L I N E  
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 1 2 3 4 5 6 7 8 9 10  
 T E a m / M E A T

30. (A) + means >  
 - means  $\geq$   
 | means <  
 $\phi$  means  $\leq$   
 $\times$  means =  
 $\square$  means  $\neq$

then  $x \neq y > z$  may give

- (A)  $x > y \neq z$   
 (B)  $x = y < z$   
 (C)  $x \neq y \leq z$   
 (D)  $x \geq y \leq z$
- We have  $y > z$ , therefore reject (B), (C) & D.

Hence; (A) is our answer.

31. (C) (A) MONDAY (B) FRIDAY  
 (C) HOLIDAY (D) WEDNESDAY

32. (C)

Total girls =  $10 + 4 + 9 = 23$

33. (A)  $8 \times 4 + 6 \div 3 - 4$   
 $8 \times 4 + 2 - 4$   
 $32 + 2 - 4$   
 $34 - 4 = 30$
34. (D)  $14 \times 3 - 12 + 4 \div 2$   
 $14 \times 3 - 12 + 2$   
 $42 - 12 + 2$   
 $44 - 12 = 32$

35. (A)

Required distance and direction

$$AD = \sqrt{AC^2 + AB^2}$$

$$= \sqrt{4^2 + 3^2} = \sqrt{16 + 9}$$

$$= 5 \text{ km North-east}$$

36. (D)

37. (C)

L O, M N

38. (A) S T A B L E and L A B O U R  
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$        $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 1 2 3 4 5 6      5 3 4 7 8 9  
 then,

B O T T L E  
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 4 7 2 2 5 6

39. (B)  $8 \div 4 \times 2 + 5 - 3$   
 $2 \times 2 + 5 - 3$   
 $4 + 5 - 3$   
 $9 - 3 = 6$

40. (C) Factor of 7

41. (D)

W A S H I N G T O N  
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 1 2 3 4 5 6 7 8 9 10

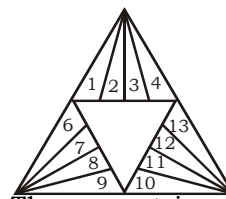
42. (C) 4 : 40 is the mirror image of 7 : 20.  
 Therefore she is on time.

43. (C) Sum of first-15 +ve whole numbers  
 $= \frac{15 \times 16}{2} = 120$

Their average =  $\frac{120}{15} = 8$

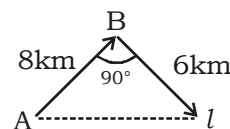
44. (D)

45. (A)



These are triangles in the given figures  
 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13  
 (1, 2), (2, 3), (3, 4), (6, 7), (7, 8), (8, 9),  
 (10, 11), (11, 12), (12, 13), (1, 2, 3), (2, 3, 4),  
 (6, 7, 8), (10, 11, 12), (11, 12, 13), (1 to 4),  
 (6 to 9), (10 to 13) and (1 - 13)

46. (D)

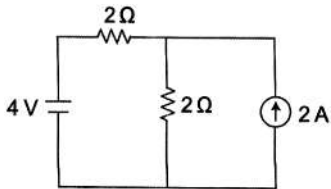


Required distance a =  $\sqrt{AB^2 + AC^2}$

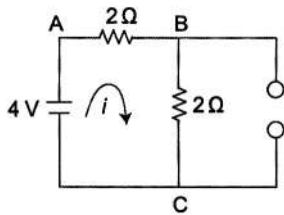
$$= \sqrt{8^2 + 6^2} = \sqrt{64 + 36}$$

$$= \sqrt{100} = 10 \text{ km}$$

187. (B) In order to calculate the total power consumed in the circuit. First off all calculate the net current in the circuit element by using superposition theorem.

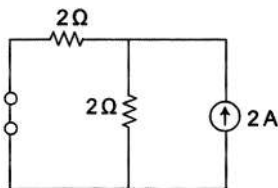


**Case I .** Take 4V source



$$i = \frac{4}{4} = 1 \text{ amp. (A} \rightarrow \text{B} \rightarrow \text{C)}$$

**Case II.** Take 2A source here current in each 2 Ω resistance will be 1 amp. (B → A and B → C)



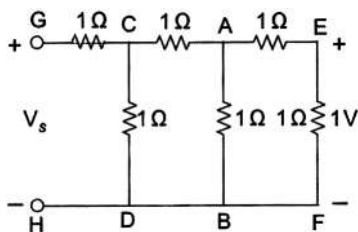
Net current in branch AB resistance  
 $R = 1 - 1 = 0$

Net current in branch BC resistance  
 $R_{BC} = 1 + 1 = 2 \text{ amp.}$

Power consumed in branch BC =  $I^2 R_{BC} = 2^2 \cdot 2 = 8 \text{ W}$

188. (D) Current in branch EF =  $\frac{1}{1} = 1 \text{ amp}$

Current in Branch AB =  $\frac{V_{AB}}{1\Omega} = \frac{2}{1} = 2 \text{ amp}$



Current in branch CA =  $1 + 2 = 3 \text{ amp.}$

Current in

$$CD = \frac{V_{CD}}{1} = \frac{V_{CA} + V_{AB}}{1}$$

$$= \frac{3 \times 1 + 2 \times 1}{1}$$

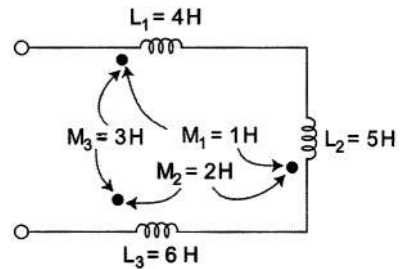
$$= 5 \text{ amp}$$

Current in branch GC =  $5 + 3 = 8 \text{ amp}$

Now,

$$\begin{aligned} V_s &= V_{GC} + V_{CD} \\ &= 1 \times 8 + 1 \times 5 \\ &= 13 \text{ V} \end{aligned}$$

190. (C)  $L_{eq} = L_1 + L_2 + L_3 - 2M_1 + 2M_2 - 2M_3$



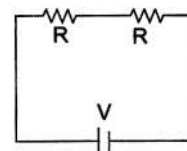
$$\begin{aligned} &= 4 + 5 + 6 - 2 \times 1 + 2 \times 2 - 2 \times 3 \\ &= 15 - 2 + 4 - 6 \\ &= 11 \text{ H} \end{aligned}$$

191. (D) Let the network contains two resistors in

$$I = \frac{V}{2R} \text{ or } V = 2IR \quad \dots(1)$$

If the value of resistance increases to two times

I becomes  $\frac{1}{2}$  and R becomes 2R.



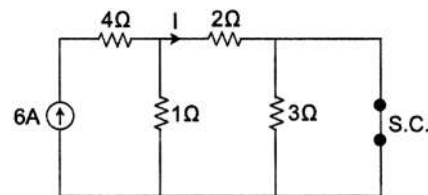
so new voltage

$$V' = 2 \cdot \frac{1}{2} \cdot (2R) = 2IR = V$$

Hence, alternative (D) is correct.

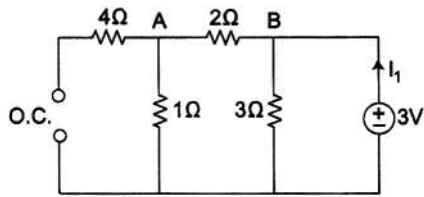
192. (C) On applying superposition theorem.

**Case I.** Taken current source in this situation the 6A circuit becomes.



$$I = \frac{6 \times 1}{2 + 1} = 2 \text{ (A} \rightarrow \text{B)}$$

**Case II.** Taken voltage source : In this situation the circuit becomes



**Note :** Here 3 Ω resistance is a extra element because voltage at node B is independent of the resistance 3 Ω.

$$I_1 = \frac{3}{2+1} = 1 \text{ amp (B} \rightarrow \text{A)}$$

The net current in 2 Ω resistance

$$i = I - I_1 = 2 - 1 = 1 \text{ amp. (A} \rightarrow \text{B)}$$

193. (C) Given that network has 7 nodes and 5 independent loop.

$$B - L + 1 = \text{nodes}$$

$$B - 5 + 1 = 7$$

$$B = 12 - 1 = 11$$

194. (D)

$$f_1 = \frac{1}{2\pi\sqrt{L_{eq}C}}$$

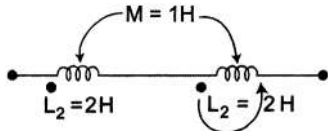
here

$$L_{eq} = L_1 + L_2 - 2M$$

$$= 2 + 2 - 2 \times 1 = 2$$

so

$$C = 1 \text{ F}$$



$$f_r = \frac{1}{2\pi\sqrt{2 \times 1}} = \frac{1}{2\pi\sqrt{2}}$$

195. (B) Nodal at  $V_x$

$$\frac{V_x}{2} + \frac{V_x - 20}{5} = 8$$

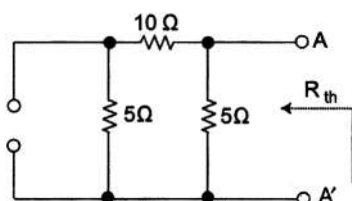
$$7V_x - 40 = 80$$

$$7V_x = 120$$

$$V_x = \frac{120}{7}$$

196. (C) Calculation for  $R_{th}$

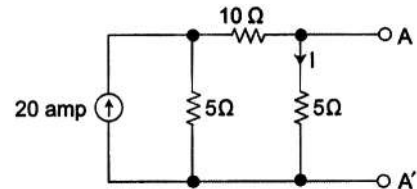
$$R_{th} = 15 \parallel 5 = \frac{15 \times 5}{15 + 5}$$



$$\text{or } R_{th} = \frac{75}{20} = \frac{15}{4} \text{ W}$$

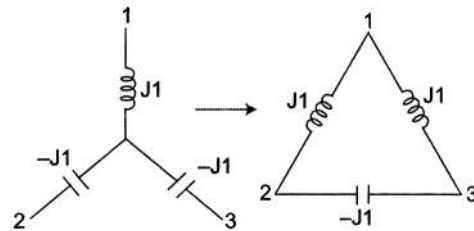
Calculation for  $V_{th}$

$$I = 20 \times \frac{5}{5+15} = 5 \text{ amp.}$$



$$V_{th} = I \times 5 = 5 \times 5 = 25 \text{ V}$$

199. (A) This can be solved by using Star to Delta transformation.



$$R_{12} = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_3}$$

$$= \frac{J1 \times -J1 + (-J1)(-J1) + (-J1) \times (J1)}{-J1}$$

$$= \frac{-J^2 + J^2 - J^2}{-J} = +J$$

$$R_{23} = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_1} = \frac{-J^2}{J} = -J$$

$$R_{31} = \frac{R_1 R_2 + R_2 R_3 + R_3 R_1}{R_2} = \frac{-J^2}{-J} = J$$