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

Answer-key & Solution

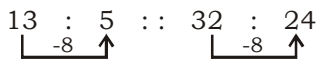
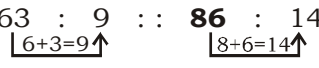
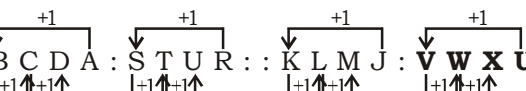
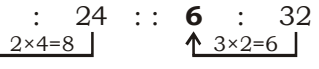
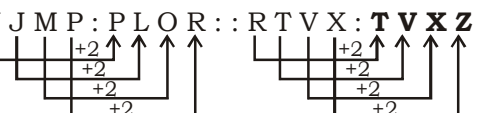

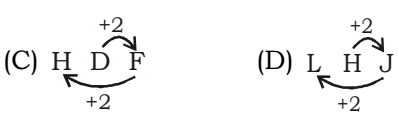
SSC JE (Mechanical)
Practice Set-1

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

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

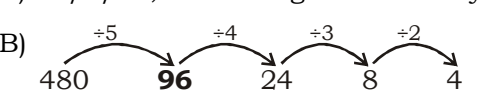
Note : If you face any problem regarding result or marks scored, please contact : 9313111777

SOLUTION SSC JE (Mechanical) Practice Set-1

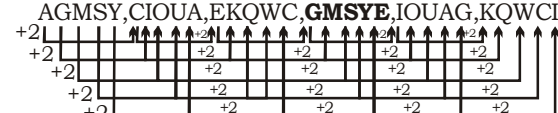
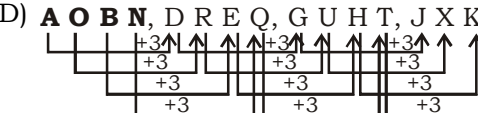
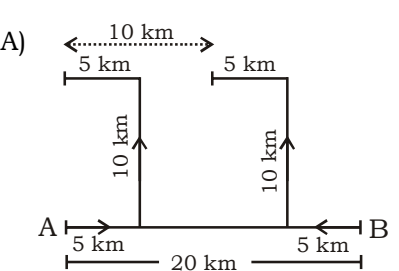
- (A) Bullet is related to Gun. Similarly Smoke is related to Fire.
- (B) Monday is related to Moon. Similarly Tuesday is related to Mars.
- (A) $13 : 5 :: 32 : 24$

- (A) $63 : 9 :: 86 : 14$

- (A) $B C D A : S T U R :: K L M J : V W X U$

- (B) $8 : 24 :: 6 : 32$

- (B) $N J M P : P L O R :: R T V X : T V X Z$

- (D) Whale is a mammal.
- (D) Fish can live in water only.
- (D) (A) $9 \frac{1}{11} = \frac{100}{11}$ (B) $7 \frac{9}{13} = \frac{100}{13}$
 (C) $5 \frac{15}{17} = \frac{100}{17}$ (D) $5 \frac{6}{19} = \frac{101}{19}$
- (C) Option is different from all others. Others are following pattern -
 1st 2nd 3rd
 2nd 3rd 1st
 3rd 1st 2nd
- (A) (A) $R P N$ (B) $W S U$

 (C) $H D F$ (D) $L H J$

- (A) Option A is an order of square & cube number of 8.
 8, 64, 512
 $8^1, 8^2, 8^3$
- (D) GREGARIOUS can not be formed using the letters.
- (B)
- (D)
- (D)

3	15	4
7	38	5
3	?	5

 $3 \times 4 + 3 = 15$
 $7 \times 5 + 3 = 38$
 $3 \times 5 + 3 = 18$
- (B) $144 (132) 121 \rightarrow 12 \times 11 = 132$

- (Multiply the square root of the numbers)
 $64 (80) 100 \rightarrow 8 \times 10 = 80$
- (B) $14 \times 4 - 12 \times 3 = 20$
 $9 \times 9 - 13 \times 3 = 42$
 $12 \times 8 - 7 \times 11 = 19$
 $20 \times 10 - 20 \times 8 = 40$
 - (B) $25/3/96$, dates are given in 28 days gaps.

 - (A)

AGMSY, CIOUA, EKQWC, **GMSYE**, IOUAG, KQWCI


 - (D) $A O B N, D R E Q, G U H T, J X K W$

 - (D) rose/rose/rose/rose
 - (D) q t s u / q t s u / q t s u
 - (A) M ← Sister K ← Brother J
 ↓ Daughter
 N → Brother P
 - (C) $175 \div 25 + 5 \times 20 - 3 \times 10$
 $7 + 100 - 30$
 $107 - 30 = 77$
 - (A) $2 \times 5 - 6 + 2 = 6$
 $10 - 6 + 2 = 6$
 $12 - 6 = 6$ (which is true)
 - (A)

 - (A) Time of coincide = $\frac{60}{11} \times H$
 $= \frac{60}{11} \times 6 = \frac{360}{11} = 32 \frac{8}{11}$ minute.

31. (C) M A T C H and B O X
 $+1\downarrow +2\downarrow +3\downarrow +4\downarrow +5\downarrow$ $+1\downarrow +2\downarrow +3\downarrow$
 N C W G M C Q A

Similarly, N O T E B O O K
 $+1\downarrow +2\downarrow +3\downarrow +4\downarrow +5\downarrow +6\downarrow +7\downarrow +8\downarrow$
 O Q W I G U V S

32. (D)

33. (D) - - J - Q P N L
 $\downarrow \quad \downarrow$ \curvearrowright
 3rd 5th

34. (D) 145 100 64 37 19
 $\downarrow -45 \quad \uparrow -36 \quad \uparrow -27 \quad \uparrow -18 \quad \uparrow$

35. (D) Assume fruits in second Basket = x
 So, fruits in first Basket = $2x$

fruits in third Basket = $2x \times \frac{3}{4} = \frac{3}{2}x$

$$\frac{x + 2x + \frac{3}{2}x}{3} = 30$$

$$\Rightarrow x + 2x + \frac{3}{2}x = 90$$

$$2x + 4x + 3x = 180$$

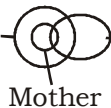
$$\Rightarrow 9x = 180$$

$$x = 20$$

Fruits in first Basket = $20 \times 2 = 40$

36. (C)

37. (A)

38. (C) Female  Doctor
 Mother

39. (D)

40. (C)

41. (D) The day will be Saturday

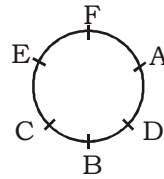
42. (D)

43. (B) M A N = 28 R A N
 $13 + 1 + 14 = 28$ $18 + 1 + 14 = 33$

44. (C) b o o k = c q r o
 $+1\downarrow +2\downarrow +3\downarrow +4\downarrow$

Similarly, a u t h o r = b w w l t x
 $+1\downarrow +2\downarrow +3\downarrow +4\downarrow +5\downarrow +6\downarrow$

45. (B)



46. (C) Pass students = $14 + 27 - 1 = 40$

Fail = 6

Total students = 46

104. (A) At plane AB, we have

$$P = P_0 + \rho g z$$

Now:

$$P_0 = \rho g z$$

Where z_0 is the barometric height, the density of mercury and P_0 the atmospheric pressure therefore,

$$P = \rho g(z + z_0)$$

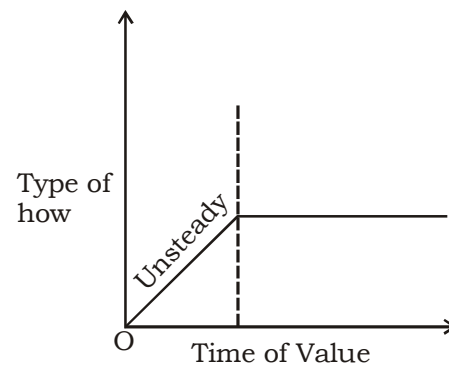
$$= 13,640 \text{ kg/m}^3 \times 9.8 \text{ m/sec}^2 \times (0.562 + 0.761)$$

$$= 177 \times 10^3 \text{ N/m}^3 = 1.77 \text{ kpa} = 1.77 \text{ bar}$$

106. (B) Buoyancy is defined as the upward force exerted by the fluid when the body is allowed to submerged in fluid.

107. (C) Viscosity is defined as the internal resistance between the layers of the fluid.

108. (B) Gradually peening and closing of a valve is known as unsteady flow.



111. (A) $L = 2P - 4$

L = No. of links

P = No. of Pairs

138. (A) Given data;

$L = D/2$ (in facing operation).

$$L = \frac{7}{2} = 36 \text{ mm.}$$

$$T = \frac{L}{F \times N} = \frac{36}{0.3 \times 80} = \frac{36}{24} = 1.5$$

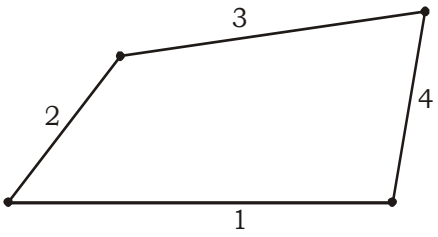
$T = 1.5$ minute



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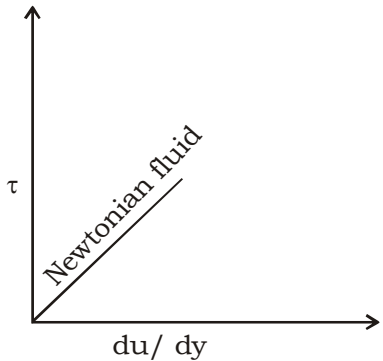
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149 . (A)



160. (C) Fluid cannot sustain external force and it comes to rest as soon as shear stress is removed.

161. (A) $\tau = \mu \left(\frac{du}{dy} \right)$



162. (C) Buoyancy is an upward force exerted by the fluid (vertical component)
FX (Horizontal) = 0

171. (C)

Type of material	Number of Independent elastic constant
1. Isotropic and homogeneous	2 (E, V)
2. Orthotropic	9
3. Anisotropic	21

172. (D) $E = 2G (1+\mu)$
 $= 2 \times 100 \times 1.25 = 250 \text{ GPa}$

173. (D) 59%

$$P_e = \frac{\pi^2 E I}{L_e^2}$$

$$\frac{P_2}{P_1} = \frac{l_2}{l_1} \Rightarrow \frac{\frac{\pi}{64} d_2^4}{\frac{\pi}{64} d_1^4}$$

$$\frac{P_2}{P_1} = \left(\frac{d_2}{d_1} \right)^4 \Rightarrow \frac{P_2}{P_1} = \left(\frac{0.81 D_1}{D_1} \right)^4 = 0.41$$

$P_2 = 0.41 P_1$
 Percentage reduction = 59

194. (C) 325 – 425°C for Mg
 425 to 480°C for Al
 650 to 900° for Cu Alloy
 1100 to 1250°C for steel
 200 to 250°C for lead.
195. (A) For steady flow, path lines, stream lines and streak lines coincide with each other.