

*KD*  
**Campus**  
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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)*  
*MOCK -(57)*  
*Date 23 / 07 / 2016*

|       |       |       |        |        |        |        |        |
|-------|-------|-------|--------|--------|--------|--------|--------|
| 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. B  | 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. A | 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 |

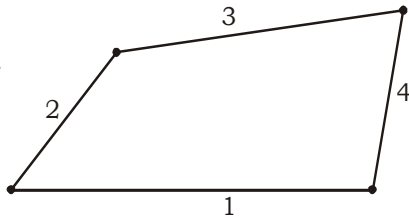
**Note :** *If your opinion differ regarding any answer, please message the mock test and Question number to 8375805483*

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



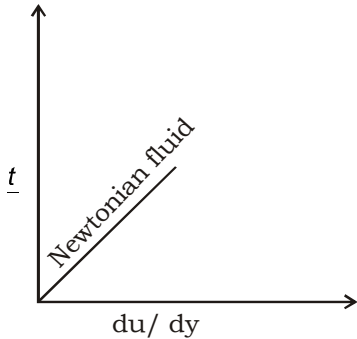


**Sol 149 .**



**Sol 160.** Fluid cannot sustain external force and it comes to rest as soon as shear stress is removed.

**Sol 161.**  $\tau \propto \left(\frac{du}{dy}\right)$



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

**sol 171.**

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

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

**Sol 173.** 59%

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

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

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

$P_2 = 0.41 P_1$   
 Percentage reduction = 59

**Sol 194.** 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.

**Sol 195.** For steady flow, path lines, stream lines and streak lines coincide with each other.