



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 (Mechanical)
MOCK -(68)
Date 08/ 10/ 2016*

1. A	26. C	51. B	76. D	101. D	126. B	151. B	176. B
2. C	27. D	52. B	77. D	102. A	127. D	152. C	177. D
3. D	28. B	53. B	78. D	103. B	128. B	153. B	178. B
4. B	29. D	54. C	79. A	104. D	129. B	154. C	179. B
5. D	30. A	55. C	80. D	105. B	130. D	155. C	180. C
6. B	31. D	56. A	81. B	106. B	131. A	156. C	181. A
7. B	32. A	57. C	82. C	107. D	132. B	157. B	182. C
8. A	33. C	58. B	83. C	108. C	133. C	158. A	183. B
9. A	34. C	59. C	84. A	109. A	134. C	159. B	184. D
10. C	35. A	60. A	85. C	110. C	135. C	160. D	185. D
11. D	36. A	61. B	86. C	111. D	136. A	161. B	186. D
12. A	37. A	62. C	87. C	112. B	137. C	162. B	187. D
13. B	38. D	63. C	88. D	113. A	138. C	163. D	188. D
14. D	39. D	64. A	89. B	114. C	139. D	164. A	189. C
15. A	40. D	65. C	90. D	115. C	140. D	165. D	190. A
16. D	41. C	66. B	91. D	116. D	141. A	166. B	191. D
17. B	42. B	67. D	92. A	117. C	142. D	167. B	192. D
18. D	43. B	68. A	93. C	118. C	143. C	168. C	193. A
19. D	44. D	69. B	94. D	119. A	144. C	169. C	194. C
20. D	45. C	70. C	95. C	120. D	145. C	170. B	195. D
21. A	46. D	71. D	96. C	121. C	146. A	171. D	196. B
22. B	47. A	72. B	97. B	122. A	147. B	172. D	197. D
23. D	48. C	73. A	98. A	123. C	148. A	173. C	198. D
24. D	49. D	74. C	99. A	124. B	149. C	174. B	199. B
25. C	50. C	75. C	100. B	125. A	150. C	175. A	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 (Mechanical) MOCK TEST no. 68

1. (A) Ink is used for writing, similarly Colour is used for painting.
2. (C) CHAIR $\xrightarrow{\text{Reverse}}$ RIAHC
Similarly,
TABLE $\xrightarrow{\text{Reverse}}$ ELBAT
3. (D) Havana is the capital of Cuba and Nicosia is the capital of Saipras.
4. (B) $6 + 15 = 21$
 $3 + 15 = 18$
5. (D)

L	K	J	M	N	O
		+1			
		+3			
		+5			

D	C	B	E	F	G
		+1			
		+3			
		+5			
6. (B) Kangaroo is the national animal of Australia and Reindeer is the national animal of Siberia.
7. (B) $72 \Rightarrow (7 + 2) \times 2 = 18$
 $56 \Rightarrow (5 + 6) \times 2 = 22$
8. (A) Brick is used in wall. Similarly, Tile is used in Roof.
9. (A) $(7)^2 - 1 = 49 - 1 = 48$
 $(12)^2 - 1 = 144 - 1 = 143$
10. (C) Brick is used by Mason and Colour is used by painter.
11. (D)

C	B	C	D
	-1	+1	+1

I	H	I	J
	-1	+1	+1

O	N	O	P
	-1	+1	+1

U	T	U	W
	-1	+1	+2
12. (A) '064' is only the square of a number in the given options.
13. (B) Plastic is a non-metal whereas Iron, Bronze and Copper are either a metal or an alloy.
14. (D) $96 = 32 \times 3$; $24 = 8 \times 3$
 $39 = 13 \times 3$; $18 = 6 \times 3$
 $81 = 27 \times 3$; $54 = 18 \times 3$
Here (82, 64) are not multiples of 3.
15. (A) We can find more than one vowel in rest of the options.
16. (D) Except Agra, all are hill-stations.
17. (B) 61 is the only prime number in the given options.
18. (D) Except 'Boat', all run on road.
19. (D)
20. (D) $\therefore F(6) + E(5) + E(5) + D(4) = 20$
 $B(2) + R(18) + E(5) + A(1) + D(4) = 30$
21. (A) SCOUT
22. (B)
23. (D) $1 \rightarrow 5 \rightarrow 4 \rightarrow 2 \rightarrow 3$

24. (D)

10	12	15	68	70	73
	+2	+3		+2	+3
25. (C) $bca \underline{a} / b \underline{c} a a / b c \underline{a} a / \underline{b} c a a$
 $\Rightarrow acab$
26. (C) $8 + 16 = 24$
 $16 + 24 = 40$
 $24 + 40 = 64$
 $40 + 64 = 104$
 $64 + 104 = 168$

27. (D)

	C	25	D
	15		15
A	20	B	E

\therefore Required distance = $20 + 25 = 45$ m

28. (B)

12	18	27	40½
	3	3	3
	$\times \frac{3}{2}$	$\times \frac{3}{2}$	$\times \frac{3}{2}$

29. (D) Required number = $51 - 21 + 1 = 31$

30. (A)

M	I	C	R	O	W	A	V	E
-1	+1	-1	+1	-1	+1	-1	+1	-1
L	J	B	S	N	X	Z	W	D
P	O	P	U	L	A	R		
-1	+1	-1	+1	-1	+1	-1		
O	P	O	V	K	B	Q		

31. (D) $B = (2)$, $MAT = 13 + 1 + 20 = 34$
 $JOGLEX = 10 + 15 + 7 + 12 + 5 + 24 = 73$

32. (A) $+ \Rightarrow \div$, $\times \Rightarrow +$
 $- \Rightarrow \times$, $\div \Rightarrow -$
 $36 - 6 + 3 \times 5 \div 3 = 74$
 $\Rightarrow 36 \times 6 \div 3 + 5 - 3 = 74$
 $\Rightarrow 36 \times 2 + 5 - 3 = 74$
 $\Rightarrow 72 + 5 - 3 = 74$
 $\therefore 74 = 74$

33. (C)

2	5	10	17	26
	+3	+5	+7	+9

34. (C)

A	C	F	J	O	U	B
	+2	+3	+4	+5	+6	+7

35. (A)

138	142	146	150	146	142	138
	+4	+4	+4	-4	-4	-4

36. (A)

17	14	15	12	13	10	11
	-3	+1	-3	+1	-3	+1

37. (A)
38. (D) $5 \times 2 \times 6 = 60$
 $8 \times 4 \times 2 = 64$
 $7 \times 6 \times 3 = \mathbf{126}$
39. (D) $25 = 5 \times 5$
 $30 = 5 \times 6$
 $35 = ? \times 5$
 $\therefore ? = \frac{35}{5} = \mathbf{7}$
40. (D) $(24 \times 2) + 5 = 48 + 5 = 53$
 $(51 \times 4) + 7 = 204 + 7 = 211$
 $(67 \times 6) + 5 = 402 + 5 = \mathbf{407}$
41. (C)
42. (B) $1 \times 10 \Rightarrow (1 \times 10) - 1 = 9$
 $2 \times 10 \Rightarrow (2 \times 10) - 2 = 18$
 $3 \times 10 \Rightarrow (3 \times 10) - 3 = 27$
 $8 \times 10 \Rightarrow (8 \times 10) - 8 = \mathbf{72}$
43. (B)
44. (D) $[(4)^2 + (2)^2 + (5)^2 + (3)^2] \div 2 = 54 \div 2 = 27$
 $[(5)^2 + (3)^2 + (2)^2 + (6)^2] \div 2 = 74 \div 2 = 37$
 $[(5)^2 + (9)^2 + (2)^2 + (2)^2] \div 2 = 114 \div 2 = \mathbf{57}$
45. (C)
46. (D) $8 - 8 + 1 = 11 \div 11$
 $\Rightarrow 0 + 1 = 1$
 $\Rightarrow 1 = 1$
47. (A) As,

M	O	N	E	Y
↓	↓	↓	↓	↓
1	2	3	4	5

P	L	U	S
↓	↓	↓	↓
6	7	8	9

 So,

P	L	U	M
↓	↓	↓	↓
6	7	8	1
48. (C) $6 + 3 \Rightarrow 3 \times 6 - (6 - 1) = 18 - 5 = 13$
 $5 + 20 \Rightarrow 5 \times 20 - (5 - 1) = 100 - 4 = 96$
 $11 + 7 \Rightarrow 11 \times 7 - (11 - 1) = 77 - 10 = 67$
 $19 + 11 \Rightarrow 19 \times 11 - (19 - 1) = 209 - 18 = 191$
49. (D)

Day before yesterday	Yesterday	Today	Tomorrow	Day after tomorrow
↓	↓	↓	↓	↓
Wednesday	Thursday	Friday	Saturday	Sunday
50. (C) C \Rightarrow 02, **11**, 23, 32, 40
 A \Rightarrow 00, 13, 21, **33**, 42
 R \Rightarrow **57**, 68, 77, 88, 99
 D \Rightarrow 03, 10, **22**, 30, 41
51. (B) The separation of powers, often imprecisely used interchangeably with the trias political principle, is a model for the governance of a state. The normal division of branches is into a legislature, an executive, and a judiciary. Division of

- powers is the often overlooked principle of dividing governmental power among the federal, state, and local governments.
52. (B) The Calcutta High Court is the oldest High Court in the country which was established on 2nd July, 1862. Madras High Court in Chennai, Bombay High Court in Mumbai, Calcutta High Court in Kolkata are the first three High Courts in India.
53. (B) The equatorial climate is found between 5 degree north and 10 degree south of the equator. Precipitation in the equatorial region is heavy between 60 inches and 106 inches and is well distributed throughout the year. Due to this abundant rainfall, tropical rainforest climate is usually found at latitudes within five degrees North and South of the equator.
55. (C) Economic liberalization is a very broad term that usually refers to fewer government regulations and restrictions in the economy in exchange for greater participation of private entities. The doctrine is associated with classical liberalism. The arguments for economic liberalization include greater efficiency and effectiveness that would translate to a "bigger pie" for everybody. Thus, liberalization in short refers to "the removal of controls", the encourage economic development.
56. (A) An important physical property of non-metals is that they are brittle and hence cannot be beaten into sheets or drawn into wires. In other words, non-metals are non-malleable and non-ductile. When stress is applied on non-metals, they shatter into pieces.
57. (C) The atmosphere of the Earth is an envelope of gases extending to a height of 200 kms.
58. (B) Jaundice is a yellow discoloration of the skin, mucous membranes, and the whites of the eyes caused by increased amounts of bilirubin in the blood. Normally, the liver metabolizes excretes the bilirubin in the form of bile. However, if there is a disruption in this normal metabolism and/or production of bilirubin, jaundice may result.

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| <p>59. (C) The different parts of a flower are calyx, corolla, androecium and gynoecium. Calyx and corolla are accessory organs, while androecium and gynoecium are reproductive organs. Photosynthetic activity is found in the calyx, green shoulder, pericarp and locular parenchyma. It suggests that all of these tissues have significant roles in CO₂ scavenging and the provision of carbon assimilates.</p> <p>65. (C) When a running car stops suddenly, the passengers tend to lean forward due to inertia of motion. Inertia is that property of a body due to which it resists a change in its state of rest or of uniform motion.</p> <p>66. (B) Legal tender is a medium of payment allowed by law or recognized by a legal system to be valid for meeting a financial obligation. So it is accepted by people and government on a legal basis. Paper currency and coins are common forms of legal tender in many countries.</p> <p>68. (A) Mercury causes bio-magnification problem in the ecosystem.</p> <p>70. (C) The Kushan period is considered the Golden period of Gandhara. Peshawar Valley and Taxila are littered with ruins of stupas and monasteries of this period. Gandharan art flourished and it produced some of the best pieces of Indian sculpture. Many monuments were created to commemorate the Jataka tales. The Gandhara civilization peaked during the reign of the great Kushan King Kanishka (128-151). The cities of Taxila (Takshasila) at Sirsukh and Peshawar were built.</p> <p>76. (D) Female birds in most families have only one functional ovary (the left one), connected to an oviduct-although two ovaries are present in the embryonic stage of each female bird.</p> <p>77. (D) Composition of air
 Nitrogen : 78.08 percent
 Oxygen : 20.94 percent
 Argon : 0.93 percent
 Carbon dioxide : 0.03 percent
 Neon : 0.0018 percent
 Helium : 0.005 percent
 Ozone : 0.00006 percent
 Hydrogen : 0.00005 percent</p> | <p>80. (D) The Ninth Five Year Plan recognised the integral link between rapid economic growth and the quality of life of the mass of the people. Ensuring environmental sustainability of the development process through social mobilisation and participation of people at all level was one of the specific objectives of the Ninth Plan as approved by the National Development Council. In the Ninth Plan document, policies and programmes during the Eighth Plan period were reviewed, shortcomings identified and new policy framework suggested overcoming the shortcomings and ensuring sustainability of the development process not only in economic terms but also in terms of social and environmental factors.</p> <p>81. (B) According to Newton's first law, an object that is at rest will stay at rest unless an external force acts upon it and an object that is in motion will not change its velocity unless an external force acts upon it. So this law is known as the law of inertia.</p> <p>82. (C) The chemical used for cloud seeding for artificial rains is silver iodide.</p> <p>83. (C) There are three bones in each human ear. The small ear bones are arranged in series and are known as ossicles. Ear bones are the malleus or hammer, the incus or anvil and the stapes, or stirrup. Together they form a short chain that crosses the middle ear and transmits vibrations caused by sound waves from the eardrum membrane to the liquid of the inner ear. As we have a pair of ear, total number of bones are 6.</p> <p>85. (C) Article 280 of the Indian Constitution deals with the Finance Commission. The Finance Commission of India came into existence in 1951. It was established under Article 280 of the Indian Constitution by the President of India. It was formed to define the financial relations between the centre and the state.</p> <p>86. (C) Raja Todar Mal was a warrior, an able administrator and an exemplary finance minister. He was one of the 'Navratnas' of Akbar's court. He introduced an excellent land revenue system. In 1582, the title Diwan-I-Ashraf was bestowed upon him by</p> |
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- the Emperor.
89. (B) When magma solidifies under the earth's surface, it forms plutonic rock bodies or plutons. The most common rock types in plutons are granite, granodiorite, tonalite, monzonite, and quartz diorite.
90. (D) Lucknow Pact, (December 1916) was a famous agreement made by the Indian National Congress headed by Maratha leader Bal Gangadhar Tilak and the All-India Muslim League led by Muhammad Ali Jinnah which was adopted by the Congress at its Lucknow session on December 29 and by the league on December 31, 1916. The meeting at Lucknow marked the reunion of the moderate and radical wings of the Congress. The pact dealt both with the structure of the government of India and with the relation of the Hindu and Muslim communities.
92. (A) Corporate Tax is a levy placed on the profit of a firm, with different rates used for different levels of profits. Corporate taxes are taxes against profits earned by businesses during a given taxable period. Most countries tax all corporations doing business in the country on income from that country.
94. (D) When treated with ammoniacal silver nitrate solution alkynes form white precipitate of silver acetylides.
96. (C) The process is known as index definition. The order in which columns are listed in the index definition is important. A database index is a data structure that improves the speed of data retrieval operations on a database table at the cost of slower writes and increased storage space. Indices can be created using one or more columns of a database table, providing the basis for both rapid random lookups and efficient access of ordered records.
98. (A) Goa is a former Portuguese colony, the Portuguese overseas territory of Portuguese India existed for about 450 years until it was annexed by India in 1961. In 1510, the Portuguese defeated the ruling Bijapur kings with the help of a local ally, Timayya, leading to the establishment of a permanent settlement in Velha Goa (or Old Goa). In 1843 the capital was moved to Panjim from Velha Goa. By the mid of the 18th century the area under occupation had expanded to most of Goa's present day state limits. Simultaneously the Portuguese lost other possessions in India until their borders stabilized and formed the Estado-da-India Portuguesa, of which Goa was the largest territory.
99. (A) An ecosystem is a community of living and non-living things that work together. It includes soil, atmosphere, heat and light from the sun and also includes water and living organisms.
100. (B) Dadabhai Naoroji, of Bombay Parsee origin, is the "Grand Old Man of India" and the "Father of Indian Nationalism" who worked with perseverance and unshakeable faith towards the goal of Swaraj was the first Indian to claim self-government for his people. Dadabhai Naoroji was also the first Indian to show that India was being drained of its wealth under the British rule and thus was fast succumbing to poverty. He played a key role in founding the Indian National Congress in 1885 and was associated with the organisation till his death.
111. (D) With the same mean radius, same wall thickness and subjected to same internal pressure, the hoop stress induced in a thin spherical vessel is half of that setup in a cylindrical vessel.
112. (B) The coefficient of friction in case of wood on wood is 0.3 to 0.5, steel on steel is 0.2, rubber tyre on dry concrete is 0.9, and rubber tyre on wet concrete is 0.7.
113. (A) The highest position of particle under the limiting condition of equilibrium inside a sphere is given by $r(1-\cos\phi)$; where ϕ is the angle of friction.
- $$\mu = \tan \phi \frac{1}{\sqrt{3}}; \phi = 30^\circ$$
- $$r(1-\cos 30^\circ) = 0.134r$$
114. (C) For a cantilever, maximum bending moment occurs at the fixed end. With an increase in load at the free end, the bending moment will increase and its maximum effect will be felt at the supports.

117. (C) From the torsion equation,

$$\frac{T}{J} = \frac{G\theta}{l}$$

For the same shaft material, same shaft length and same angle of twist.

$$T_2 = T_1 \left(\frac{J_2}{J_1} \right) = T_1 \times (2) = 2T$$

That is the torque will be double the original torque.

132. (B) The expected efficiencies for different types of riveted joints are given below:

Lap joints

single 45 to 65%

double 65 to 75%

triple 75 to 85%

Butt joints

single 60 to 70%

double 75 to 85%

triple 80 to 90%

163. (D) Since Efficiency of the Engine purely depends upon source and sink temperatures and independent of the working substances hence all the engines will have same efficiency.

170. (B) Fluidity can be defined as the length of spiral covered by the molten metal before it get solidifies. Fluidity is the function of temperature, higher the temperature, more will be the fluidity.

178. (B) A centrifugal pump can be started with its delivery valve fully closed.