

HSSC MOCK TEST – 157 (SOLUTION)

1. (D) R occurs 2 times in CORPORATION
∴ Number of ways arranging letters

$$\text{other than vowels} = \frac{7!}{2!}$$

$$= \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = 2520$$

Now O occurs 3 times,
∴ Number of ways arranging vowels

$$= \frac{5!}{3!} = \frac{5 \times 4 \times 3 \times 2 \times 1}{3 \times 2 \times 1} = 20$$

∴ Required number of ways = $2520 \times 20 = 50400$

2. (A) Total number of ways = $6^4 = 1296$
Number of ways of getting a sum 22

$$= 6, 6, 6, 4 = \frac{4!}{3!} = 4$$

$$\text{and, } 6, 6, 5, 5 = \frac{4!}{2!2!} = 6$$

Number of ways getting a sum 23

$$= 6, 6, 6, 5 = \frac{4!}{3!} = 4$$

Number of ways of getting a sum 24

$$= 6, 6, 6, 6 = 1$$

∴ Number of cases = $4 + 6 + 4 + 1 = 15$ ways

∴ Required probability = $\frac{15}{1296} = \frac{5}{432}$

3. (D) Since the number is divisible by 5, 50 the tens place can be filled by any of the 5 digits other than 5.

∴ There are 5 ways of filling the tens place.
The hundreds place can be filled by any of 4 digits

∴ There are 4 ways of filling the hundreds place.
∴ Required number of numbers = $1 \times 5 \times 4 = 20$

4. (B) $(f + g)(x) = f(x) + g(x)$
 $= (-7x - 5) + (10x - 12)$
 $= 3x - 17$

5. (B) $A + A^T = I$

$$\therefore \begin{bmatrix} \cos \theta & -\sin \theta \\ \sin \theta & \cos \theta \end{bmatrix} + \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix}$$

$$= \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$\Rightarrow \begin{bmatrix} 2 \cos \theta & 0 \\ 0 & 2 \cos \theta \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$\Rightarrow 2 \cos \theta = 1$$

$$\Rightarrow \cos \theta = \frac{1}{2}$$

$$\therefore \theta = 60^\circ$$

6. (A) Machine language
7. (A) Roman number system uses symbols to represent numbers.

The octal number system uses digits from 0 - 7, the binary number system uses digits from 0 - 1, the hexadecimal number system uses digits from 0 - 15.

8. (C) As expansion is of the form $(a + x)^n$, so r^{th} term

$$= a^{n-r+1} x^{r-1}$$

$$\frac{\{n(n-1)(n-2)\dots(n-r+2)\}}{(r-1)!}$$

Here, $r = 3$ and $n = 6$

So, 3rd term of $(3 + y)^6$

$$= 3^{6-3+1} \cdot y^{3-1} \cdot \left[\frac{6 \times 5}{2} \right]$$

$$= 3^4 \cdot y^2 \cdot 15 = 1215y^2$$

9. (A) Mean = $\frac{3+7+11+2+9+7+6+11+4+10}{10}$

$$= \frac{70}{10}$$

Simple Variation =

$$\frac{(3-7)^2 + (7-7)^2 + (11-7)^2 + (2-7)^2 + (9-7)^2 + (6-7)^2 + (11-7)^2 + (4-7)^2 + (10-7)^2}{9}$$

$$= \frac{16+0+16+25+4+0+1+16+9+9}{9}$$

$$= \frac{96}{9}$$

∴ Simple standard deviation

$$= \sqrt{\frac{96}{9}} = \frac{9.79}{3} = 3.26$$

10. (C) Let the area of backyard be x^2 this year and y^2 last year.

$$\therefore x^2 - y^2 = 131$$

$$\Rightarrow (x + y)(x - y) = 131$$

$$\Rightarrow (x + y)(x - y) = 131 \times 1$$

$$\Rightarrow x + y = 131$$

$$\Rightarrow x - y = 1$$

$$\Rightarrow 2x = 132$$

K D
Campus
K D Campus Pvt. Ltd

PLOT NO. 2 SSI, OPP METRO PILLAR 150, GT KARNAL ROAD, JAHANGIRPURI DELHI: 110033

$\Rightarrow x = 66$

and, $y = 65$

\therefore Number of tomatoes produced in this year = $(66)^2 = 4356$

11. (C) As, sides are 9, 40 and 41

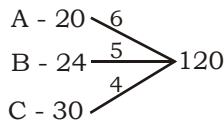
\therefore Triangle is right angled

$\therefore 9^2 + 40^2 = 41^2$

\therefore Circumradius of the triangle

$= \frac{41}{2} = 20.5 \text{ cm}$

12. (C) ATQ,



4 days work of A, B and C = $15 \times 4 = 60$ unit

6 days work of C = $4 \times 6 = 24$ unit.

Time taken to complete the remaining

$$\text{work} = \frac{120 - 20 - 24}{9} = 4$$

\therefore Required number of days = $4 + 4 + 6 = 14$

13. (C) Let the speed of boat = x km/hr

Speed of stream = y km/hr

and let $\frac{1}{x+y} = V$ and $\frac{1}{x-y} = U$

ATQ,

$$\frac{15}{x-y} + \frac{21}{2(x+y)} = \frac{13}{4} \dots\dots\dots(i)$$

and, $\frac{12}{x-y} + \frac{14}{x+y} = \dots\dots\dots(ii)$

On solving equation (i) and (ii),

$$U = \frac{1}{6} \text{ and } V = \frac{1}{14}$$

$\therefore x = 10$ and $y = 4$

\therefore Speed of stream = 10 km/hr

27. (A) The period between 1206. AD and 1526 A.D in India's history is known as the Delhi sultanate period.

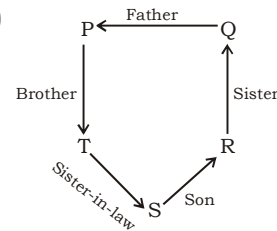
78. (A) Number of word in FLOWER = 6

As, $(6 + 1) 2 = 14$

and, $(8 + 1) 2 = 18$

Similarly, $(10 + 1) 2 = \mathbf{22}$

79. (C)



80. (A) cbad/bccbcbad/bccbcbad/bc

81. (C) Except 457, all other are the multiple of 3

82. (C) $54 \div 6 \times 7 + 8 - 2$
 $= 63 + 6 = \mathbf{69}$

HSSC MOCK TEST – 157 (ANSWER KEY)

- | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1. (D) | 11. (C) | 21. (D) | 31. (C) | 41. (A) | 51. (D) | 61. (A) | 71. (B) | 81. (C) | 91. (A) |
| 2. (A) | 12. (C) | 22. (D) | 32. (A) | 42. (C) | 52. (A) | 62. (A) | 72. (B) | 82. (C) | 92. (B) |
| 3. (D) | 13. (C) | 23. (D) | 33. (B) | 43. (A) | 53. (A) | 63. (B) | 73. (B) | 83. (A) | 93. (D) |
| 4. (B) | 14. (D) | 24. (B) | 34. (B) | 44. (B) | 54. (A) | 64. (B) | 74. (D) | 84. (D) | 94. (B) |
| 5. (B) | 15. (C) | 25. (B) | 35. (B) | 45. (B) | 55. (B) | 65. (D) | 75. (B) | 85. (B) | 95. (C) |
| 6. (A) | 16. (B) | 26. (D) | 36. (C) | 46. (B) | 56. (B) | 66. (D) | 76. (D) | 86. (D) | 96. (B) |
| 7. (A) | 17. (A) | 27. (A) | 37. (B) | 47. (B) | 57. (D) | 67. (B) | 77. (C) | 87. (B) | 97. (B) |
| 8. (C) | 18. (A) | 28. (C) | 38. (C) | 48. (D) | 58. (B) | 68. (B) | 78. (A) | 88. (D) | 98. (C) |
| 9. (A) | 19. (C) | 29. (C) | 39. (B) | 49. (A) | 59. (C) | 69. (A) | 79. (C) | 89. (B) | 99. (C) |
| 10. (C) | 20. (B) | 30. (D) | 40. (A) | 50. (C) | 60. (C) | 70. (D) | 80. (A) | 90. (D) | 100. (B) |

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock Test.

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