

HSSC MOCK TEST - 188 (SOLUTION)

1. (C) $S = 5^{4/5} \cdot 5^{4/5^2} \cdot 5^{4/5^3} \dots \infty$

$$S = 5^{\left[\frac{4}{5} + \frac{4}{5^2} + \frac{4}{5^3} + \dots\right]}$$

$$S = 5^{\frac{4}{5} \cdot \frac{1}{1-\frac{1}{5}}}$$

$$S = 5^{\frac{4/5}{4/5}} = 5$$

2. (D) $\cos 10 + \cos 20 + \cos 30 + \dots + \cos 170$
 $\Rightarrow \cos 10 + \cos 20 + \dots + \cos 90 + \cos 100$
 $+ \cos 110 + \dots + \cos 170$
 $\Rightarrow \cos 10 + \cos 20 + \dots + \cos 90 + \cos (180-80)$
 $+ \cos (180-70) + \dots + \cos (180-20) +$
 $\cos (180-10)$

$$\Rightarrow \cos 10 + \cos 20 + \dots + \cos 90 - \cos 80 - \cos 70 - \cos 20 - \cos 10$$

$$\Rightarrow 0$$

3. (C) Data 11, 12, 11, 14, 16, 15, 22, 17, 18, 25
 On arranging in ascending order
 11, 11, 12, 14, 15, 16, 17, 18, 22, 25

$$\text{Middle terms} = \left(\frac{10}{2}\right)^{\text{th}} \text{ and } \left(\frac{10}{2} + 1\right)^{\text{th}}$$

$$= 5^{\text{th}} \text{ and } 6^{\text{th}}$$

$$\text{Median} = \frac{5^{\text{th}} \text{ term} + 6^{\text{th}} \text{ term}}{2}$$

$$= \frac{15 + 16}{2} = 15.5$$

4. (B) zero

5. (A) Points (2, -1), (3, 4) and (1, a) are collinear,

$$\text{then } \begin{vmatrix} 2 & -1 & 1 \\ 3 & 4 & 1 \\ 1 & a & 1 \end{vmatrix} = 0$$

$$\Rightarrow 2(4 - a) + 1(3 - 1) + 1(3a - 4) = 0$$

$$\Rightarrow 8 - 2a + 2 + 3a - 4 = 0$$

$$\Rightarrow a + 6 = 0 \Rightarrow a = -6$$

6. (D)

2	37	1
2	18	0
2	9	1
2	4	0
2	2	0
2	1	1
0		

↑
(37)₁₀ = (100101)₂

7. (C) Two-digit even numbers
 10, 12, 14, 98

$$\text{Now, } 98 = 10 + (n-1) \times 2$$

$$\Rightarrow 88 = (n-1) \times 2 \Rightarrow n = 45$$

$$S_n = \frac{n}{2} (a + l)$$

$$S_{45} = \frac{45}{2} (10 + 98)$$

$$S_{45} = 45 \times 54 = 2430$$

8. (A) The required no. of ways = ${}^{15-1}C_{11}$
 $= {}^{14}C_{11} = 364$

9. (C) $\sqrt{2 + \sqrt{1 + \sqrt{3 + \sqrt{11 + \sqrt{625}}}}}$

$$\Rightarrow \sqrt{2 + \sqrt{1 + \sqrt{3 + \sqrt{11 + 25}}}}$$

$$\Rightarrow \sqrt{2 + \sqrt{1 + \sqrt{3 + \sqrt{36}}}}$$

$$\Rightarrow \sqrt{2 + \sqrt{1 + \sqrt{3 + 6}}}$$

$$\Rightarrow \sqrt{2 + \sqrt{1 + 3}}$$

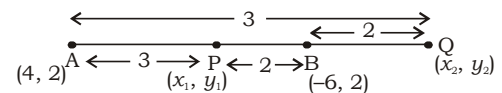
$$\Rightarrow \sqrt{2 + 2} = 2$$

10. (A) $A = \{1, 2, 3, 7, 10, 11, 13, 15\}; n = 8$
 The no. of proper subset = $2^n - 1$

$$= 2^8 - 1$$

$$= 256 - 1 = 255$$

11. (B)



$$x_1 = \frac{3 \times (-6) + 2 \times 4}{3 + 2}, y_1 = \frac{3 \times 2 + 2 \times 2}{3 + 2}$$

$$x_1 = -2, y_1 = 2$$

$$\text{Point } P(x_1, y_1) = (-2, 2)$$

$$x_2 = \frac{3 \times (-6) - 2 \times 4}{3 - 2}, y_2 = \frac{3 \times 2 - 2 \times 2}{3 - 2}$$

$$x_2 = -26, y_2 = 2$$

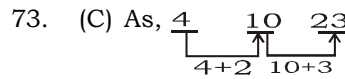
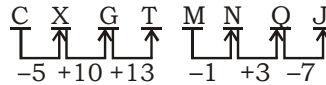
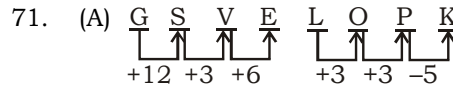
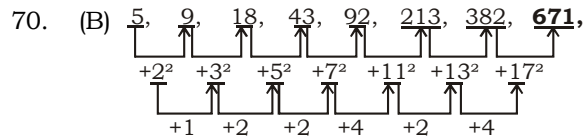
$$\text{Point } Q(x_2, y_2) = (-26, 2)$$

$$\text{Now, } PQ = \sqrt{(-2 + 26)^2 + (2 - 2)^2}$$

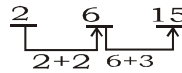
$$= \sqrt{576 + 0} = 24$$

12. (C) Total students = 500
Fail students = 43
Total pass students $n(H \cup E) = 457$
 $n(H) = 226, n(E) = 282$
Now, $n(H \cap E) = n(H) + n(E) - n(H \cup E)$
 $\Rightarrow n(H \cap E) = 226 + 282 - 457$
 $\Rightarrow n(H \cap E) = 508 - 457 = 51$
13. (C) $(1 + x)^2(1 + x^2)^3$
 $\Rightarrow (1 + 2x + x^2)(1 + x^2 + 3x^2 + 3x^4)$
Hence coefficient of $x^6 = 1 + 3 = 4$
14. (C)
15. (A) Given that $S_{13} = 533$
 $\Rightarrow \frac{13}{2}[2a + 12d] = 533$
 $\Rightarrow 13[a + 6d] = 533$
 $\Rightarrow a + 6d = 41$
Hence $T_7 = 41$
68. (C) $24 \div 2 + 13 + 54 \times 2 = 34$
After interchanging the signs,
 $24 \times 2 + 13 - 54 \div 2 = 34$
 $\Rightarrow 48 + 13 \div 27 = 34$

$\Rightarrow 37 = 37$



Similarly,



75. (D) As, $5^2 + 2^2 + 1 = 30$
Similarly, $7^2 + 8^2 + 1 = 114$

HSSC MOCK TEST – 188 (ANSWER KEY)

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