SSC MOCK TEST - 258 (SOLUTION)

1. (A) Honey is related to Bee, while Larva is related to Bug.
2. (C) As,

$9^2 + 9 \rightarrow 90$

Similarly,

$20^2 + 20 \rightarrow$ **420**

3. (D) Smoke cause pollution, while war cause destruction.
4. (C) (A) $15 \xrightarrow{+20} 35, 400$ (square)

(B) $16 \xrightarrow{+8} 24, 64$ (square)

(C) $25 \xrightarrow{+5} 30, 25 \neq$ **900** (square)

(D) $28 \xrightarrow{+10} 38, 100$ (square)

5. (D) Plash, Lotus and Red Jasmine are State flower of Uttar Pradesh, Haryana and Goa respectively, but Lily is not a state flower of any state of India.
6. (C) (A) D $\xleftarrow{\text{opposite}}$ W
C $\xleftarrow{\text{opposite}}$ X

(B) I $\xleftarrow{\text{opposite}}$ R
H $\xleftarrow{\text{opposite}}$ S

(C) D $\xleftarrow{\text{opposite}}$ **W ≠ T**
Q $\xleftarrow{\text{opposite}}$ **J ≠ T**

(D) V $\xleftarrow{\text{opposite}}$ E
U $\xleftarrow{\text{opposite}}$ F

7. (C) 1. Terrible → 2. Territory → 3. Terror → 4. Terrorism → 5. Terrorist

8. (D) $P^- \rightleftharpoons T^+$

X^+ Y^- J

Here the gender of J is not known.

9. (C) 43 50 55 65 **76**

+(4+3) +(5+0) +(5+5) +(6+5)

10. (D) XXI XX XIX XVIII XVII **XVI**

21 20 19 18 17 16

11. (D) % opposite #

& opposite ?

© opposite @

12. (B) **From Figure I,**

$3^2 + 2^2 + 1^2 + 5^2 = 9 + 4 + 1 + 25 = 39 - 1 = 38$

From Figure II,

$2^2 + 6^2 + 2^2 + 3^2 = 4 + 36 + 4 + 9 = 53 - 1 = 52$

From Figure III,

$(2^2 + 3^2 + x^2 + 4^2) - 1 = 53$

$(4 + 9 + x^2 + 16) = 54$

$x^2 = 54 - 29$

$x^2 = 25$

$x = 5$

13. (D) +2 +4 +6 +8

H E **J** **G** N K T Q B Y

+2 +4 +6 +8

14. (B) As,

G G +1 H

S D +1 E

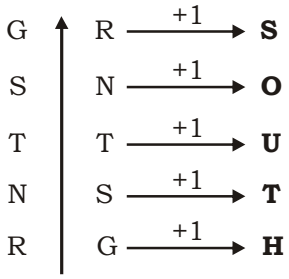
K Z +1 A

Z K +1 L

D S +1 T

G G +1 H

Similarly,



15. (C)
16. (C) There are 8 triangles in the given figure.
17. (C) ab cd/bcde/cdef
18. (B) $\because n^3 = 64$
$n^3 = (4)^3$
$\therefore$ $n = 4$
Number of cubes which are painted on only two faces = $(n - 2) \times 12$
$= (4 - 2) \times 12 = 24$
19. (C) $\frac{4+1}{3\times\sqrt{3}} = \frac{5}{3\sqrt{3}}$

$\frac{5+2}{3\sqrt{3}\times\sqrt{3}} = \frac{7}{9}$

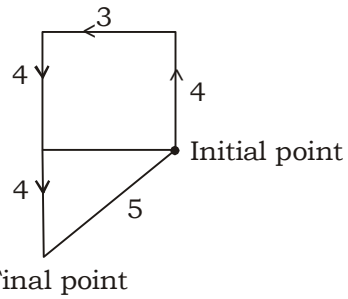
$\frac{7+3}{9\times\sqrt{3}} = \frac{10}{9\sqrt{3}}$

$\frac{10+4}{9\sqrt{3}\times\sqrt{3}} = \mathbf{\frac{14}{27}}$
20. (D) $50 \div 0.5 + 20 - 8 \times 0.25 = 13$
After changing the signs we have,
$50 \times 0.5 + 20 - 8 \div 0.25 = 13$

$= 50 \times \frac{1}{2} + 20 - \frac{8}{0.25} = 13$

$= 25 + 20 - 8 \times 4 = 13$
$= 45 - 32 = 13$
$13 = 13$
21. (B)
22. (C) $W \rightarrow E$
$A \rightarrow R$
$R \rightarrow X$
$M \rightarrow S$
$O \rightarrow T$
$T \rightarrow W$
$E \rightarrow A$

23. (B)



Required minimum distance = $\sqrt{3^2 + 4^2}$ = 5 km

24. (B) X Y P Q Z
↓ ↓
Most powerful Least Powerful

25. (C) 75, 13, 40, 67

27. (A) Alauddin Khilji, the Muslim ruler, enforced price control system for the first time.

28. (C) A lunar eclipse occurs when the Moon moves into the Earth's shadow.

29. (B) Of all the aluminium ores, bauxite is the main ore of aluminum.

30. (B) Formerly the Minister of External Affairs, Lai Bahadur Shastri became the Indian Prime Minister after the death of Jawaharlal Nehru, India's first Prime Minister, on 27 May 1964.

31. (C) A Lactometer is used to find out the amount of water in the milk that you are drinking. It works on the principle of specific gravity of milk.

32. (A) Black soil coupled with favourable climatic conditions (Temperature of 21° - 32° C and 30-100 cm of rainfall) are responsible for cotton cultivation in Gujarat.

33. (C) Apex Governing body of men and women's hockey, Hockey India has recently nominated national women's team captain Rani Rampal for the prestigious Rajiv Gandhi Khel Ratna Award.

34. (C) Nitrous acid acts as an oxidising agent because it oxidises potas-sium iodide to iodine. It is also a reducing agent because it decolourises acidified potassium permanganate solution. Nitric acid acts only as an oxidising agent Ammonia acts only as a reducing agent. Nitrogen peroxide acts only as an oxidising agent.

35. (B) Fauna is all of the animal life present in a particular region or time.

36. (D) The HAL Tejas is a light weight multirole fighter developed by India.

38. (C) The official languages of the United Nations are 6 in number namely, Arabic, Chinese, English, French, Russian and Spanish.

41. (A) "Jana Gana Mana" is the national anthem of India written by Nobel laureate Rabindranath Tagore. The song which has been saluted by billions of people for the last 100 years was first sung on the second day of the annual conference of the Indian National Congress (INC) in Calcutta on December 27, 1911.

42. (C) Around 1192, Qutub-ud-Din Aibak envisioned Qutub Minar, but he only got to complete the basement. The construction was later taken over by his successor Iltutmish who constructed three more stories of the tower.

45. (D) Legislature of the Union, which is called Parliament, consists of the President and two Houses, known as Council of States (Rajya Sabha) and House of the People (Lok Sabha). Each House has to meet within six months of its previous sitting.

46. (A) The first-ever tri-services India-US amphibious exercise titled "Tiger TRIUMPH" is being conducted from November 13 to 21 near Visakhapatnam and Kakinada in Andhra Pradesh.

48. (B) Solution of iodine is known as tincture of iodine it has iodine as the solute and alcohol as the solvent.

50. (C) The International Atomic Energy Agency (IAEA) is an international organisation that seeks to promote the peaceful use of nuclear energy, and to inhibit its use for any military purpose, including nuclear weapons. IAEA has its headquarters in Vienna, Austria.

51. (A) S.P of machine sold at loss = ₹ 57 lakh

Let the loss be ₹ x.

ATQ,

$57 + x = 67 - 7x$

$8x = 10$

$x = \frac{10}{8}$

$\therefore$ Cost price of machine = $= 57 + \frac{10}{8}$

$= 57 + 1.25 = ₹ 58.25$ lakh

52. (B) Since $(3x - P)$, $(x - 10)$ and $(-x + 16)$ are in A.P.

$\therefore$ $(x - 10) - (3x - p) = (-x + 16) - (x - 10)$

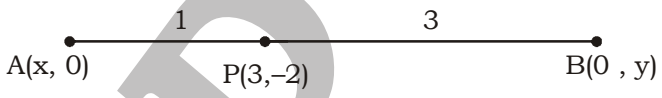
$x - 10 - 3x + P = -x + 16 - x + 10$

$-2x - 10 + P = -2x + 26$

$P - 10 = 26$

$P = 26 + 10 = 36$

53. (A)



By using section formula,

$P(x, y) = \left(\frac{y_1 m + x_1 n}{m+n}, \frac{y_2 m + x_2 n}{m+n}\right)$

$P(3, -2) = \left(\frac{0 \times 1 + x \times 3}{1+3}, \frac{y \times 1 + 0 \times 3}{1+3}\right)$

$P(3, -2) = \left(\frac{3x}{4}, \frac{y}{4}\right)$

$\frac{3x}{4} = 3$ and $\frac{y}{4} = -2$

$x = 4$ and $y = -8$

54. (C) cosec A – cot A = x

$$\frac{1}{\sin A}-\frac{\cos A}{\sin A}=x$$

$$x=\frac{1-\cos A}{\sin A}\times\frac{1+\cos A}{1+\cos A}$$

$$=\frac{1-\cos^2 A}{\sin A(1+\cos A)}=\frac{\sin^2 A}{\sin A(1+\cos A)}$$

$$=\frac{\sin A}{1+\cos A}$$

55. (B) Let the sum be ₹ x.

Time = 3 years

Rate = 10% at SI

$$SI=\frac{x\times 3\times 10}{100}=₹\frac{3x}{10}$$

Principle = ₹ 6000

Time = 2 years

Rate = 10% at CI

$$CI=6000\left(1+\frac{10}{100}\right)^2-6000$$

$$=6000\times\frac{11}{10}\times\frac{11}{10}-6000$$

= 7260 – 6000 = ₹ 1260

ATQ,

$$\frac{3x}{10}=\frac{1260}{2}$$

$6x = 1260 \times 10$

$$x=\frac{1260\times 10}{6}=₹ 2100$$

56. (A) $\frac{\text{Radius of Cone A } (r_A)}{\text{Radius of Cone B } (r_B)}=\frac{4}{5}$

$$\frac{\text{Volume of Cone A}}{\text{Volume of Cone B}}=\frac{1}{4}$$

$$\frac{\pi r_A^2 h_A}{\pi r_B^2 h_B}=\frac{1}{4}$$

$$\left(\frac{r_A}{r_B}\right)^2 \frac{h_A}{h_B} = \frac{1}{4}$$

$$\left(\frac{4}{5}\right)^2 \frac{h_A}{h_B} = \frac{1}{4}$$

$$\frac{h_A}{h_B} = \frac{1}{4} \times \frac{25}{16} = \frac{25}{64}$$

$h_A : h_B = 25 : 64$

57. (C) $\sqrt{a} + \sqrt{b} + \sqrt{c} = 0$

$\sqrt{a} + \sqrt{b} = -\sqrt{c}$

Squaring both sides,

$a + b + 2\sqrt{ab} = c$

$a + b - c = -2\sqrt{ab}$

$(a + b - c)^2 = 4(ab)$

$$\frac{(a+b-c)^2}{ab} = 4$$

58. (B) $\tan\theta + \frac{1}{\tan\theta} = 2$

So, $\tan\theta = 1$

$$\tan^2\theta + \frac{1}{\tan^2\theta} = (1)^2 + \frac{1}{(1)^2}$$

$= 1 + 1 = 2$

59. (D) Required number = (Largest 5-digit multiple of 3,5,8 and 12) + 2
= (Largest 5-digit multiple of 120) + 2
= 99960 + 2 = 99962

60. (C) Ram 12 — 2
Ravi 8 — 3
24
5

Time required = $\frac{24}{5} = 4\frac{4}{5}$ days

61. (C) Total pupils wearing spectales = $\frac{45}{100} \times \frac{20}{100} \times 600 + \frac{55}{100} \times \frac{30}{100} \times 600$

$= 54 + 99 = 153$

Required percentage = $\left(\frac{153}{600} \times 100\right)\% = 25.5\%$

62. (B) $A = P\left(1+\frac{r}{100}\right)^T$

$1102.5 = 1000\left(1+\frac{5}{100}\right)^T$

$\left(\frac{21}{20}\right)^T = \frac{1102.50}{1000}$

$\left(\frac{21}{20}\right)^T = \left(\frac{21}{20}\right)^2$

T = 2 years

63. (A) Side of a cube = HCF of 6, 42, 45 = 3 cm

So, least possible number of cubes = $\frac{6\times42\times45}{3\times3\times3} = 420$

64. (C) Filling Pipe $6\overline{)42}\ 7$
Filling Pipe + leakage $7\ \frac{6}{1}$

Time taken by leakage to empty the tank = $\frac{42}{1}$ = 42 hours

65. (D) Percentage discount = $\left(\frac{MP-SP}{MP}\times100\right)\%$

$= \left(\frac{700-625}{700}\times100\right)\% = 10.71\%$

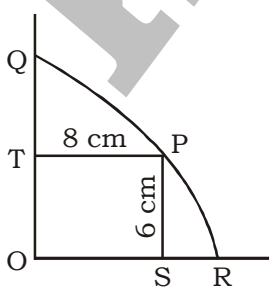
66. (D) Required speed = $\left(\frac{100+120}{40}\right)m/s$

$= \left(\frac{220}{40}\times\frac{18}{5}\right)km/h = 19.8$ km/h

67. (D) Average age of the family = $\frac{67\times2+35\times2+6\times3}{2+2+3}$

$= \frac{222}{7} = 31\frac{5}{7}$ years

68. (B)



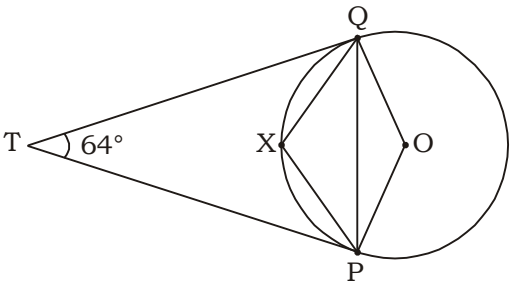
From the figure,

OP = $\sqrt{6^2 + 8^2}$ = 10 cm

Length of the Arc OR = $\frac{\pi r \theta}{180}$

= $\frac{\pi \times 10 \times 90}{180}$ = 5π cm

69. (A)



$\angle PTQ + \angle POQ = 180°$

$\angle POQ = 180 - 64 = 116°$

$\angle PXQ = 180° - \frac{1}{2} \angle POQ$

$= 180° - \frac{1}{2} \times 116° = 122°$

70. (C) $\frac{a}{b} = \frac{\sqrt{5}+1}{\sqrt{5}-1} \times \frac{\sqrt{5}+1}{\sqrt{5}-1}$

$\frac{a}{b} = \frac{(\sqrt{5}+1)^2}{(\sqrt{5}-1)^2}$

$\frac{a}{b} = \frac{5+1+2\sqrt{5}}{5+1-2\sqrt{5}}$

$\frac{a}{b} = \frac{6+2\sqrt{5}}{6-2\sqrt{5}}$

$\frac{a}{b} = \frac{3+\sqrt{5}}{3-\sqrt{5}}$

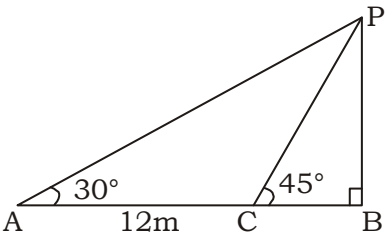
Applying componendo and dividendo, we have

$\frac{a+b}{a-b} = \frac{3+\sqrt{5}+3-\sqrt{5}}{(3+\sqrt{5})-(3-\sqrt{5})}$

$\frac{a+b}{a-b} = \frac{6}{2\sqrt{5}} = \frac{3}{\sqrt{5}}$

$\left(\frac{a-b}{a+b}\right)^2 = \left(\frac{\sqrt{5}}{3}\right)^2 = \frac{5}{9}$

71. (A)



In ΔPBC,

$\tan 45° = \frac{PB}{BC}$

$PB = BC$

In ΔPBA,

$\frac{PB}{AB} = \tan 30°$

$\frac{PB}{AC + CB} = \frac{1}{\sqrt{3}}$

$\frac{PB}{12 + PB} = \frac{1}{\sqrt{3}}$

$PB = \frac{12}{\sqrt{3} - 1} = 6(\sqrt{3} + 1)$

$= 6 \times 2.732 = 16.392$ m

72. (C) Expenditure on materials and taxes together = (22 + 36)% of 500 = 58% of 500
$= 0.58 \times 500 = ₹ 290$ crores

73. (C) Required angle = $\left(\frac{36}{100} \times 360°\right)^{\circ} = 129.6°$

74. (D) $25 = x\%$ of 22

$x = \frac{25 \times 100}{22} = 113.64 \approx 114$

75. (A) Required amount = 13% of 500 – 4% of 500
$= ₹ 45$ crores

MEANINGS IN ALPHABETICAL ORDER

Asinine	extremely stupid or foolish	बुद्धिहीन
Astute	having or showing an ability to accurately assess situations or people and turn this to one's advantage	चतुर
Destitute	without the basic necessities of life	बेसहारा
Discern	having or showing good judgment	बुद्धिमान
Err	be mistaken or incorrect; make a mistake	गलती होना
Extortion	the practice of obtaining something, especially money, through force or threats	जबरन वसूली
Grim	forbidding or uninviting	विकट
Haunting	poignant and evocative; difficult to ignore or forget	भूतिया
Inept	having or showing no skill; clumsy	अयोग्य
Meditate	think deeply or focus one's mind for a period of time	ध्यान लगाना
Naive	(of a person or action) showing a lack of experience, wisdom, or judgment	अनुभवहीन
Ominous	giving the impression that something bad or unpleasant is going to happen; threatening; inauspicious	अशुभ
Oxidase	an enzyme which promotes the transfer of a hydrogen atom from a particular substrate to an oxygen molecule, forming water or hydrogen peroxide	ऑक्सीकारक
Prepped	prepare (something); make ready	तैयार
Presumptuous	(of a person or their behavior) failing to observe the limits of what is permitted or appropriate	अभिमान
Primed	make (something) ready for use or action	दुरुस्त
Reclamation	the process of claiming something back or of reasserting a right	संशोधन
Reparation	the making of amends for a wrong one has done	मरम्मत
Retrieve	get or bring (something) back; regain possession of	पुनः प्राप्त
Scant	barely sufficient or adequate	थोड़ा
Sheath	a cover for the blade of a knife or sword	म्यान
Thespian	relating to drama and the theater	नाटकीय
Void	a completely empty space	रिक्त
Wander	walk or move in a leisurely, casual, or aimless way	भटकना
Whirl	a rapid movement around and around	चक्कर

SSC MOCK TEST - 258 (ANSWER KEY)

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

76. (C) Replace ‘invested’ with ‘investing’.

77. (C) Replace ‘their’ with ‘its’ (used for ‘airline’).

90. (D) The correct spelling of 'Feriest' is 'Fieriest', 'Diuratic' is 'Diuretic' and 'Farments' is 'Ferments'.

91. (A) The correct spelling of 'Oxidieser' is 'Oxidase', 'Aproval' is 'Approval' and 'Secreetes' is 'Secretes'.