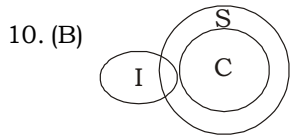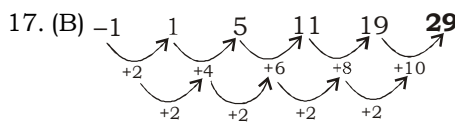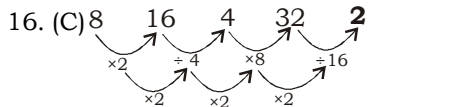# SSC MOCK TEST – 89 (SOLUTION)

1. (A) 2nd October is celebrated as Gandhi's birthday and 14th November is celebrated as **Nehru's** birthday.

2. (D) $6 \times 2 \times 3 = 36 \Rightarrow 36 \times 1.5 = 54$
$2 \times 8 \times 4 = 64 \Rightarrow 64 \times 1.5 = \textbf{96}$

3. (C) Ben stokes represents **England** cricket team and Ashish Nehra represents Indian cricket team.

4. (B) $18 \div 2 = 9 \Rightarrow 9 \times 9 \times 9 = 729$
$\textbf{14} \div 2 = 7 \Rightarrow 7 \times 7 \times 7 = 343$

5. (D) Except **406**, others are completely divisible by 17.

6. (C) Except **Guwahati**, others are capital cities.

7. (C) Except **Dream,** others are reality.

8. (B) Only **Kidney** is an Internal organ.

9. (D) Number of boys in the row
$= (18 + 6 + 5) = 29$
Anil is just left of Arun. So, Anil is 17th from the left end.
Number of boys to the right of Anil
$= (29 – 17) = 12$
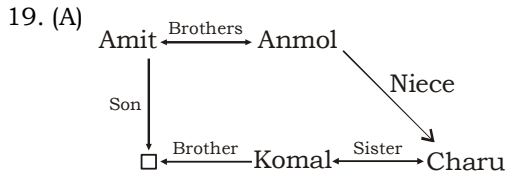So, Anil is **13th** from the right end of the row.

10. (B)

1. False   2. True
Only conclusion (2) follows

11. (B) $12 \times 8 = 6 \times 16, 14 \times 5 = 10 \times 7, 18 \times 9 = 27 \times \textbf{6}$

12. (B) $87 = 29 + 58 = 13 + 22 + 52 = 17 + 29 + \textbf{6} + 35$

13. (A) LCM (12,8) = 24
LCM (8,6) = 24
LCM (6,4) = 12
LCM (4,10) = 20
LCM (10,15) = 30
LCM (15,12) = **60**

14. (A)

15. (B) **N**ATIVE

16. (C)

17. (B)

18. (A) Continuous prime number has been used by considering three digits at a time in given pattern.
2 3 5, 3 5 7, 5 7 1 1, 1 1 1 3 1 7
235/357/571/171/113/111/**317**

19. (A)

Clearly, Charu is Anmol's **Niece**.

20. (A) abcd/<u>e</u>bcd/a<u>f</u>cd/ab<u>g</u>d/a<u>b</u>c<u>h</u>

21. (C) After changing the sign, we have
$= 18 – 16 \div 4 + 2 \times 5$
$= 18 – 4 + 10$
$= \textbf{24}$

22. (D)

23. (B) $18 \div 6 – 1 \times 2 = 3 – 2 = 1$

24. (B)

25. (B) 68 86   41   34
    R   I   D   E

26. (B) Manganiyars are a tribal community from Rajasthan (North West) with a strong musical tradition. The Manganiars consider themselves descendants of the Rajputs and are renowned as highly skilled folk musicians of the Thar desert. Their songs are passed on from generation to generation as a form of oral history of the desert. They sing songs about Alexander the Great, about the local Maharajas and past battles in the region.

27. (A) Aristotle in 340 B.C first stated that the earth was spherical in his book "On the Heaven".Ancient Greek philosopher Aristotle was born in 384 B.C. in Stagira, Greece. When he turned 17, he enrolled in Plato's Academy. In 338, he began tutoring Alexander the Great. In 335, Aristotle founded his own school, the Lyceum, in Athens, where he spent most of the rest of his life studying, teaching and writing. Aristotle died in 322 B.C.

28. (B) The Constitution (98th Amendment) Bill, 2003, seeks to constitute a National Judicial Commission (NJC) by including Chapter IV-A in Part V of the Constitution which will be in charge of appointing judges to the higher judiciary and for transferring High Court Judges.

30. (A) It is observed that a liquid drop tends to contract and appear spherical when it is set free from external forces like gravity, etc. Surface tension is the property among liquids due to which they tend to occupy minimum surface area. That's why water droplet appears spherical because for a given volume, a sphere has minimum surface area. Due to this property of surface tension liquid surface stretches and behaves like a stretched membrane.

31. (C) Cobalt-60 is useful as a gamma ray source because it can be produced in predictable quantity and high activity by bombarding cobalt with neutrons. This is commonly used in radiation therapy for treatment of cancer.

32. (C) During a transplant, the fine roots are destroyed due to the jostling during the uprooting process. These root hairs come under a shock. The plant which has been transplanted either takes time to read just to the new soil or dries up and dies due to the root hair loss.

34. (A) The first edition of Gramin Khel Mahotsav (GKM) will be held from March 25th to 31st, 2017 in New Delhi. The games will be held in five sports disciplines Athletics, Kabaddi, Kho-Kho, Volley Ball and Wrestling. The festival will help participation of rural youth in large numbers in popular sports and encourage them to achieve excellence and adopt healthy life style. The purpose of this fest is to promote sports in rural areas across the country and will be replicated in other States and UTs as well.

35. (D) Food and Nutrition Board works under Ministry of Women and Child Development. It is a technical support wing under Child Development Bureau of the Ministry. None of the given options is correct.

36. (B) These Bhakti saints were disciples of Saint Ramananda.

37. (C) The Cardamom Hills are southern hills of India and part of the south Western Ghats located in south-east Kerala and south-west Tamil Nadu. They are not in Coromandel Coast. Kaimur Range is the eastern portion of the Vindhya Range extending from Madhya Pradesh to Bihar. They are not in Konkan coast. The Mahadeo Hills are in Madhya Pradesh, Central India. Mikir hills are in Assam i.e. in North East India.

38. (A) Sabeer Bhatia of India and Jack Smith founded the first free web-based email service, Hotmail, in 1995. Hotmail was commercially launched on 4th July 1996 as "HoTMaiL" on American Independence Day.

40. (D) In case of motor car battery or automotive batteries a nominal 12-volt potential difference is provided by connecting six galvanic cells in series. Capacity of these batteries is expressed in ampere hour. Electrolyte used is a solution of about 35% sulphuric acid and 65% water and electrodes used are plates of lead and separate plates of lead dioxide.

41. (D) Nitroglycerine (NG) also known as nitroglycerine, trinitroglycerin (TNG), nitro, trinitroglycerine, glyceryl trinitrate(GTN), or 1,2,3- trinitroxypropane, is a heavy, colorless, oily, explosive liquid obtained by nitrating glycerol. Alfred Nobel discovered that mixing nitroglycerin with diatomaceous earth would turn the liquid into a paste, called dynamite. An advantage of dynamite was that it could be cylinder-shaped for insertion into the drilling holes used for mining.

42. (A) Diatoms are autotrophs which prepare their own food. Crustaceans are herbivorous animals which feed on diatoms. Herrings are carnivorous animals which feed on Crustaceans. This completes the food chain.

43. (D) Justice Abhay Manohar Sapre has been appointed the new chairman of Cauvery Water Disputes Tribunal (CWDT). The post fell vacant following the resignation of Justice Balbir Singh Chauhan, who is currently the chairman of Law Commission. The CWDT was constituted by the Government of India (GoI) in 1990 to adjudicate the water dispute regarding the inter-state Cauvery river which has Tamil Nadu, Karnataka, Kerala and Puducherry as basin states.

44. (B) The British Govt. sent a delegation to India under Sir Stafford Cripps, to negotiate with the Indian National Congress a deal to obtain total cooperation during the war, in return of progressive devolution and distribution of power from the Crown and the Viceroy to an elected Indian Legislature. The talks failed, as they did not address the key demand of a time table of self government and of definition of the powers to be relinquished, essentially making an offer of limited dominion status that was wholly unacceptable to the Indian movement.

45. (D) Production of rice is 96.43 MT, wheat is 78.4 MT, pulses are 15.11 MT and coarse cereals are 40.73 MT in India. So, the correct sequence in decreasing order is Rice – Wheat – Coarse cereals – Pulses.

46. (B) The salaries and allowances of the Judges of the HC are charged to the Consolidated Fund of the state but their pensions are payable as Charged Expenditure /Art 112(3).

49. (D) DNA finger printing technology is the process of establishing the biological paternal relationship between individual and his alleged child on the analysis of sample cells taken from each of them. DNA finger printing can solve cases of rape murder etc.

50. (C) According to the annual report of International Monetary Fund, India's GDP growth has been projected to 6.6% in FY 17 due to the strains that have emerged in the economy as a result of temporary disruptions caused by demonetisation. It expects growth to rebound to 7.2% in FY18.

51. (C) C.P. of 120 cups = ₹ 120 × 8 = ₹ 960
    20 cups are broken
    ∴ S.P. of 100 cups = ₹ (100 × 12) = ₹ 1200
    Profit = ₹ (1200 – 960) = ₹ 240

    ∴ Profit percent = $\dfrac{240}{960}$ × 100 = **25 %**

52. (C) cos θ · cosec 29° = 1

    ⇒ cosec 29° = $\dfrac{1}{\cos \theta}$ = sec θ

    ⇒ cosec 29° = cosec (90° – θ)
    ⇒ 29° = 90° – θ
    ⇒ θ = 90° – 29° = **61°**

53. (B) Given equations are:
    $3x + 4y = 5$ ...(i)
    $x + 2y = 2$ ...(ii)
    On solving (i) & (ii)

    We will get $x = 1$ and $y = \dfrac{1}{2}$

    ∴ $3x + 4y = 3 \times 1 + 4 \times \dfrac{1}{2}$ = **5**

54. (A) Let the first train meet the second in x hrs after the start, then
    $40x + (x - 2) \times 50 = 110$ (the 2nd train takes $(x - 2)$) hrs. as the train starts two hours later than the 1st)
    ⇒ $90x = 110 + 100 = 210$

    ∴ $x = \dfrac{210}{90}$ hrs = $\dfrac{7}{3}$ hrs = $2\dfrac{1}{3}$ hrs
    = 2 hrs 20 min
    ∴ Two trains meet at (9a.m + 2hrs 20 min) = **11.20 a.m.**

55. (A) $x + \dfrac{1}{x} = \sqrt{2} \Rightarrow \left(x + \dfrac{1}{x}\right)^2 = 2$

    $\Rightarrow \left(x + \dfrac{1}{x}\right)^2 - 4 = 2 - 4 \Rightarrow \left(x - \dfrac{1}{x}\right)^2 = -2$

    $\Rightarrow x - \dfrac{1}{x} = \sqrt{-2}$

56. (B) Let there be x men originally, then 1 man will do the work in $50x$ days.
    Also, 1 man does the work in $(x + 8)$ 30 days.
    Now, $50x = 30(x + 8) \Rightarrow 20x = 240$

    ∴ $x = \dfrac{240}{20}$ = 12 men

    ∴ There were **12 men** originally.

57. (C) S.I. at the rate of 6% for 2 year

    = $\dfrac{P \times 6 \times 2}{100} = \dfrac{12\,P}{100}$ ...(i)

    S.I. at the rate of 5% for next 4 year

    = $\dfrac{P \times 5 \times 4}{100} = \dfrac{20P}{100}$ ...(ii)

    S.I. at the rate of 8% for next 2 year

    = $\dfrac{P \times 8 \times 2}{100} = \dfrac{16\,P}{100}$ ...(iii)

    Total S.I. = $\dfrac{12\,P}{100} + \dfrac{20P}{100} + \dfrac{16\,P}{100}$

    $\Rightarrow \dfrac{48\,P}{100}$ = ₹ 1440

    $\Rightarrow P = \dfrac{1440 \times 100}{48}$ = ₹ 3000

    ∴ Required sum = ₹ **3000**

58. (D) Gain % = $\dfrac{\text{Error}}{\text{True value} - \text{Error}}$ × 100

    = $\dfrac{280}{720}$ × 100 = $\mathbf{38\dfrac{8}{9}}$ %

59. (A) 1 day's work of 2(A + B + C)

    = $\dfrac{1}{12} + \dfrac{1}{18} + \dfrac{1}{30}$

    = $\dfrac{15 + 10 + 6}{180} = \dfrac{31}{180}$ part

    A + B + C = 1 day's work = $\dfrac{1}{2} \times \dfrac{31}{180}$ part

    ∴ Required number of days = $\dfrac{180 \times 2}{31} = \dfrac{360}{31}$

    = $\mathbf{11\dfrac{19}{31}}$ days

60. (B) $101 \times 101 = 10201$

$101 \times 101 \times 101 = \mathbf{1030301}$

61. (C) Total amount is 100%

Percent of amount left = $(100 - (32 + 53)) = 15\%$

So, Amount left $= \dfrac{14160}{15} \times 100 = ₹\,\mathbf{94400}$

62. (A) S.P. = ₹ 345

L% = 8%

C.P. $= \dfrac{100}{92} \times 345$

P = 8%

S.P. $= \dfrac{100 + P\,\%}{100} \times$ C.P.

$= \dfrac{108}{100} \times \dfrac{345}{92} \times 100 = ₹\,\mathbf{405}$

63. (A) $\sec\theta = a + \dfrac{1}{4a}$, $\cos\theta = \dfrac{4a}{4a^2 + 1}$

$\dfrac{\tan\theta + \sec\theta}{2} = \dfrac{\dfrac{4a^2 - 1}{4a} + \dfrac{4a^2 + 1}{4a}}{2}$

$= \dfrac{\dfrac{4a^2 - 1 + 4a^2 + 1}{4a}}{2} = \dfrac{2a}{2} = \mathbf{a}$
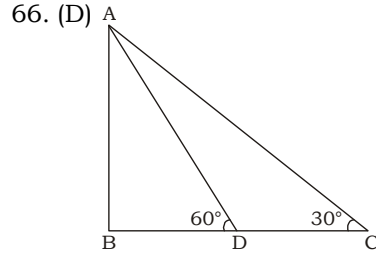
64. (C) $x = 28 + 16\sqrt{3}$

$\downarrow$

$2ab$

$2 \times 4 \times 2\sqrt{3}$

$x = (4 + 2\sqrt{3})^2 \Rightarrow \sqrt{x} = \mathbf{4 + 2\sqrt{3}}$

65. (D) Strength of milk in the first

mixture $= \dfrac{9}{9 + 4} = \dfrac{9}{13}$

Strength of milk in the second

mixture $= \dfrac{7}{7 + 4} = \dfrac{7}{11}$

$\therefore$ Required ratio $= \dfrac{9}{13} : \dfrac{7}{11} = 9 \times 11 : 7 \times 13$
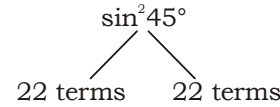
$= \mathbf{99 : 91}$

66. (D)

Required height $= \dfrac{70}{\cot 30° - \cot 60°}$

$= \dfrac{70}{\sqrt{3} - \dfrac{1}{\sqrt{3}}} = 70 \times \dfrac{\sqrt{3}}{2} = \mathbf{35\sqrt{3}\ m}$

67. (D) $\sin^2 1° + \sin^2 3° \ldots \sin^2 85° + \ldots + \sin^2 89°$

$= \sin^2 1° + \ldots + \cos^2 1°\ (\sin^2 89° = \cos^2 1°)$

$[\because \sin(90° - \theta) = \cos\theta°]$

It is a series of AP

$89 = 1 + (n - 1) \times 2 \therefore n = 45$

$\sin^2 45°$

22 terms   22 terms

$= 22 + \sin^2 45° = 22\dfrac{1}{2}$

$\therefore 1 + \sin^2 1° + \sin^2 3° + \sin^2 5° \ldots\ldots\ldots +$

$\sin^2 85° + \sin^2 87 + \sin^2 89 = 22\dfrac{1}{2} + 1 = \mathbf{23\dfrac{1}{2}}$

68. (C) Two angles = A and B and A > B.

$\therefore$ A + B = 120°

$= \dfrac{120 \times \pi}{180}$ radian

$\Rightarrow$ A + B $= \dfrac{2\pi}{3}$ radian …(i)

Also, A − B $= \dfrac{\pi}{6}$ …(ii)

On adding both equations,

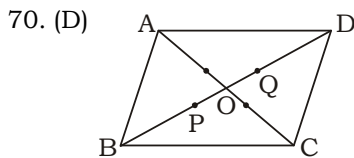$\Rightarrow$ 2A $= \dfrac{2\pi}{3} + \dfrac{\pi}{6}$

$\Rightarrow$ 2A $= \dfrac{4\pi + \pi}{6} = \dfrac{5\pi}{6}$

$\therefore$ A $= \mathbf{\dfrac{5\pi}{12}}$ radian

69. (B) Area of the floor = 9 × 4 = 36sq. m
= 3600 sq. dm.
Area of a square tile = 6 × 6 = 36 sq. dm

∴ Number of tiles = $\dfrac{3600}{36}$ = **100**

70. (D)

Centroid is the point where medians intersect.
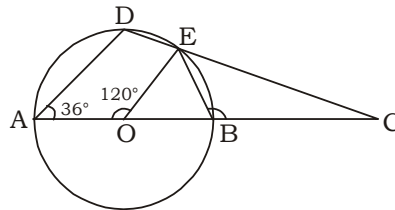Diagonals of parallelogram bisect each other.

OP = $\dfrac{1}{3}$ × 3 = 1 cm

OQ = $\dfrac{1}{3}$ × 3 = 1 cm

∴ PQ = 1 + 1 = **2** cm

71. (C) Let required number of wickets = x
ATQ,
10.6 × x + 26 = (x + 5) (10.6 – 0.6)
= 10.6x + 26 = (x + 5) × 10
⇒ 10.6x + 26 = 10x + 50
⇒ 10.6x – 10x = 50 – 26
⇒ 0.6x = 24

⇒ x = $\dfrac{24}{0.6}$ = 40

∴ Required number of wickets = **40**

72. (D)

∠AOE = 120°
∠DAO = 36° [Given]
∠EOB = 180° – 120° = 60°
OE = OB

∴ ∠OEB = ∠OBE = $\dfrac{120}{2}$ = 60°

∴ CBE = 180° – 60° = **120°**

73. (A) Percentage increase = $\left(\dfrac{15-9}{9}\times100\right)\%$

= $\dfrac{600}{9}\%$ = **66$\dfrac{2}{3}$%**

74. (B) Required Average Sale

= $\dfrac{9+12+30+18+18+15}{6}$ crore

= $\dfrac{102}{6}$ = **17 crore**

75. (D) Required Total Sale
= (6+6+9+12+30+18+18+15+21+21) crore
= **156 crore**

MEANINGS IN ALPHABETICAL ORDER

WORDS	MEANING IN ENGLISH	MEANING IN HINDI
Accustom	make something accept something as normal or usual	आदत डालना
Benevolent	kind	दयालु
Canoe	a narrow, keelless boat with pointed ends, propelled by a paddle	डोंगी
Combat	take action to reduce prevent	सामना करना
Congenital	especially of a disease or physical abnormality present from birth	जन्मजात
Curb	to control	नियंत्रण करना
Dinghy	a small boat for recreation or racing, especially an open boat with a mast	कश्ती
Dispute	a disagreement	विवाद
Frigate	a warship with a mixed armament, generally lighter than a destroyer	युद्ध-पोत
Healed	treatment cause to become healthy again.	ठीक होना
Immunity	the ability of an organism to resist a particular infection by the action of specific antibodies	रोग प्रतिरोधक शक्ति
Inoculated	treat a person or animal with a vaccine to produce immunity against a disease	टीका
Podgy	fat	मोटा
Pustule	a small blister on the skin containing pus	फुंसी
Sore	a raw or painful place on the body	पीड़ादायक
Vindictive	unreasoning desire for revenge	बदला लेनेवाला
Whims	an odd or fanciful or capricious idea	सनक

SSC MOCK TEST - 89 (ANSWER KEY)

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

76. (B) Change 'poetry' into 'poem' as we are talking about one poem not a collection of them.

77. (C) Replace 'out of' by 'of'.

78. (C) If the subject is joined by 'with' the verb will agree with the first subject. So we need to replace 'were' by 'was'.

79. (A) If 'of' is used after 'one', the noun or pronoun that comes immediately after 'of' will be plural in form. So we need to replace 'assistant' by 'assistants'

81. (B) (i) Annoyed with someone.
    (ii) Annoyed at something.

89. (A) 'V$_2$' of 'throw' is 'threw'.

91. (B) You 'stake' a 'claim' (the best way to express it)

92. (A) The sentence will be in present perfect continuous tense as the action started in the past and is still going on.

Note:- Whatsapp with Mock Test No. and Question No. at 9560866063 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