SSC MOCK TEST – 44 (SOLUTION)

1. (C) A B D G : Z Y W T : B C E H : Y X V S (with Opp. relations)

2. (A) 43 : 57 :: 111 : 133
$7^2 - 6$ $8^2 - 7$ $11^2 - 10$ $12^2 - 11$

3. (C) Cardiologist deals with Heart. In the same way Neurologist deals with Brain.

4. (B) AEROPLANE is kept in Hanger as Car is kept in Garrage.

5. (B) C I Q Y : D J R Z : A G O W : B H P X (with +1 relations)

6. (D) 8 : 64 :: 27 : 125
2^3 4^3 3^3 5^3 (+2)

7. (C) U A S C : Y E W G : D H L O : H L P S (with +4 relations)

8. (B) 16 : 64 :: 49 : 196
4^2 8^2 7^2 14^2 (×2)

9. (C) Beak, except (C), all are parts of a plane.

10. (D) C B U V   Y X T U
(+1) (+1)   (+1) (+1)
R Q O P   I J S O
(+1) (+1)   (+1) (+4)

11. (B) Except B, all the term can be divided by 3.

12. (A) I N U   M S Y
(+5)(+7)   (+6)(+6)
A G M   L R X
(+6)(+6)   (+6)(+6)

13. (D) Humming bird feeds only on nectar. The others don't.

14. (B) except B, in all the second term is exactly 4-times of first.

15. (B) Except (B), all numbers are squares.

16. (A) Except (A), follow +2 rule from right side.

17. (C) R A M A Y A N A → B O B Z B N B S (with +1 relations)

Similarly,
G R A N T H → I U O B S H (with +1 relations)

18. (D)

(I) (II) (III) (IV)

Using I & III
3 – 2 – 6
3 – 5 – 1
So, 6 will be opposite to I.

19. (D) 678 : - 67 ÷ 8 ⇒ Q = 8, R = 3
476 = 47 ÷ 6 ⇒ Q = 7, R = 5
in same way : -
369 = 36 ÷ 9 ⇒ Q = 4, R = 0

20. (C) 2, 4, 3, 5, 1

21. (B) Because E is not present in given word.

22. (B) 50
$4^2 + 3^2 = 25$
$9^2 + 11^2 = 202$
$1^2 + 7^2 = 50$

23. (C) 3 × 7 = 21
4 × 3 = **12**
2 × 8 = 16

24. (A) 16 × 2 ÷ 8 = 4
25 × 5 ÷ 25 = 5
48 × 3 ÷ 36 = 4
8 × 6 ÷ 16 = 3

25. (A) 3 × 3 = 9
9 × 9 = 81
81 × 81 = 6561

26. (A) 22 × 3 = 66
66 × 3 = 198
198 × 3 = 594

27. (C) Because O N E & F I V E
2 3 1   9 6 4 1
So, N I N E
3 6 3 1

28. (A) X
X > Z > Y
⋁
W

29. (B) Because INRDTPEES
↓
WORD FORMED
PRESIDENT
637914825

30. (A) 11

    9 + 7 – 6 = 10
    8 + 5 – 3 = 10
    9 + 6 – 4 = 11

31. (B) (2 + 3) × 15 = 75

    (7 + 4) × 15 = 165
    (14 + 5) × 15 = 285

32. (A)

    $\overset{-11}{\frown}$ $\overset{-10}{\frown}$ $\overset{-9}{\frown}$ $\overset{-8}{\frown}$
    72, 61, 51, 42, 34

33. (C)

    $\overset{+5}{\frown}$ $\overset{+10}{\frown}$ $\overset{+15}{\frown}$ $\overset{+20}{\frown}$ $\overset{+25}{\frown}$
    3, 8, 18, 33, 53, 78

34. (B) If a (n) is prime, then all series follow prime +1 concept

35. (C)
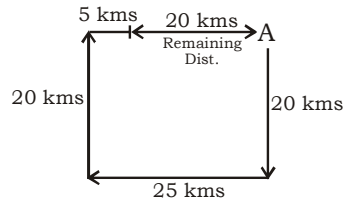
36. (B)
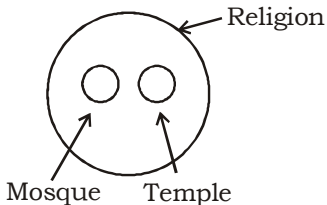
37. (C)
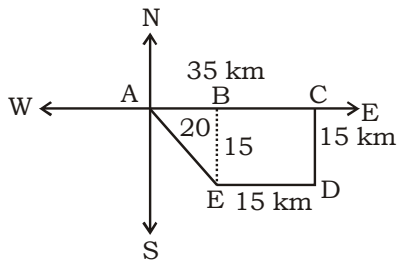
Minimum distance

$AE = \sqrt{20^2 + 15^2}$

$= \sqrt{400 + 225}$

$= \sqrt{625} = 25$ km

38. (D) Daughter-in-law
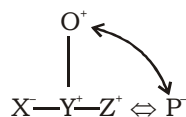
39. (A) $\Rightarrow 5 \times 3 + 8 – 4 \div 2 = 21$

$\Rightarrow 5 \times 3 + 8 – 2$

$\Rightarrow 15 + 8 – 2 = 21$

40. (C) Only II follows.

41. (C) I, II and III follows.

42. (C) cbba
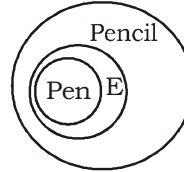
    $\overline{bb\underline{c}aa}$ $\overline{bb\underline{c}aa}$ $\overline{bb\underline{c}a\underline{a}}$

43. (A) bcaa

    $\overline{abc}\overline{b\underline{c}a}\overline{\underline{c}ab}\overline{\underline{a}bc}\overline{bc\underline{a}}$

44. (A)   45. (D)   46. (B)

47. (C)   48. (C)   49. (B)

50. (D)

51. (D) The States Re-organisation Act, 1956 was a major reform of the boundaries of India's states and territories, organising them along linguistic lines. Although additional changes to India's state boundaries have been made since 1956, the States Re-organisation Act of 1956 remains the single most extensive change in state boundaries since the independence of India in 1947.The Act came into effect at the same time as the Constitution (Seventh Amendment) Act, 1956, [1] which (among other things) restructured the constitutional framework for India's existing states and the requirements to pass the States Re-organisation Act, 1956 under the provisions of Articles 3 & 4 of the constitution.

52. (D) The Ninety-second Amendment of the Constitution of India, officially known as The Constitution (Ninety-second Amendment) Act, 2003, amended the Eighth Schedule to the Constitution so as to include Bodo, Dogri, Santhali and Maithali languages, thereby raising the total number of languages listed in the schedule to 22. The Eighth Schedule lists languages that the Government of India has the responsibility to develop.

53. (B) The gravity model is by far the most commonly used aggregate trip distribution model. But the gravity model does not exhaust all the theoretical possibilities. Intervening opportunities model which although much less used; offer real alternatives to the gravity model. The basic idea behind the intervening-opportunities model is that trip making is not explicitly related to distance but to the relative

accessibility of opportunities for satisfying the objective of the trip. The original proponent of this approach was Stouffer (1940), who also applied his ideas to migration and the location of services and residences. But it was Schneider (1959) who developed the theory in the way it is presented today.

54. (D) Attlee was the British Labour Party leader from 1935 to 1955 and Prime Minister from July 26, 1945, to Oct. 26, 1951.

56. (A) Aligarh Muslim University (AMU) is a public university funded by the Government of India. It was originally established by Sir Syed Ahmad Khan as Mohammedan Anglo-Oriental College in 1875. The Mohammedan Anglo-Oriental College became Aligarh Muslim University in 1920. The main campus of AMU is located in the city of Aligarh. In addition to this it has its three off-campus centres at Malappuarm (Kerala), Murshidabad (West Bengal) and Kishanganj (Bihar). The university comprises all castes, creeds, religions and genders, and is a Institute of National Importance provided under Seventh Schedule of the Constitution at its commencement.

61. (B) Mamallapuram, also known as Mahabalipuram, is a town in Kanchee-puram district in the Indian state of Tamil Nadu. It is around 60 km south from the city of Chennai. Ancient Indian traders who went to countries of South East Asia sailed from the seaport of Mahabalipuram. By the 7th century it was a port city of South Indian dynasty of the Pallavas.

63. (B) Gametogenesis involves formation of gametes:- sperm in male and ovum in female begins with germs cell called spermatogonium and oogonium which undergo mitosis to form spermatocyte and oocyte respectively and the meiosis I & II to form sperm and egg.

64. (C) Leghorn :- These are the most popular breed for poultry fanning because they are excellent layers. However, the flesh is not as delicious as that of several other breeds. The body is short with a long back, a protruding breast and a yellow beak. They have creamy ear lobes and a rose comb. They adapt to all climates but do better in dry regions. The common varieties are white, brown, black and buff of which the White Leghorn is the most ideal with an average production of 220 250 eggs per annum.

65. (D) The original jurisdiction of a court is the power to hear a case for the first time, as opposed to appellate jurisdiction, when a higher court has the power to review a lower court's decision. In India, the Supreme Court has original, appellate and advisory jurisdiction.[1] Its exclusive original jurisdiction extends to all cases between the Government of India and the States of India or between Government of India and states on side and one or more states on other side or cases between different states. In addition, Article 32 of the Constitution of India grants original jurisdiction to the Supreme Court on all cases involving the enforcement of fundamental rights of citizens.

69. (A) The Dynamic Host Configuration Protocol (DHCP) is a network protocol used to configure devices that are connected to a network so they can communicate on that network using the Internet Protocol (IP). The protocol is implemented in a client server model, in which DHCP clients request configuration data, such as an IP address, a default route and one or more DNS server addresses from a DHCP server.

70. (B) Calcium oxide (CaO), commonly known as quicklime or burnt lime, is a widely used chemical compound. It is a white, caustic, alkaline, crystalline solid at room temperature.

71. (C) Magnesium hydroxide is an inorganic compound with the chemical formula of hydrated Mg(OH)2. It is often known as milk of magnesia, because of its milk-like appearance as a suspension. While magnesium hydroxide has a low solubility in water.

73. (C) Tea is mainly grown in Asia, Africa, South America and around the Black and Caspian seas. The four biggest tea producing countries today are china, India, Sri lanka and Kenya.

78. (C) The enamel on your teeth is the hardest and most highly mineralized substance in your body. It covers the outer layer of each tooth and it is the most visible part of the tooth. The enamel is mostly made up of minerals, primarily hydroxyapatite.

79. (C) Apomixes is made of asexual reproduction by which embryo develops solely from cell in the ovule tissue.

80. (D) Interatrial septum allows to enter blood from left atrium to right atrium.

81. (B) The mercury in glass or mercury thermometer was invented by physicist Daniel Gabriel Fahrenheit in Amsterdam (1714). It consists of a bulb containing mercury attached to a glass tube of narrow diameter; the volume of mercury in the tube is much less than the volume in the bulb. The volume of mercury changes slightly with temperature; the small change in volume drives the narrow mercury column a relatively long way up the tube. The space above the mercury may be filled with nitrogen or it may be at less than atmospheric pressure, a partial vacuum.

82. (B) The Brabourne Stadium is a cricket ground in Mumbai, Maharashtra. The ground is owned by the Cricket Club of India (CCI). Brabourne Stadium is India's first permanent sporting venue. The North Stand of the Brabourne housed the Board of Control for Cricket in India (BCCI) headquarters and the 1983 Cricket World Cup trophy until 2006 when both were moved to the newly built Cricket Centre at the nearby Wankhede Stadium. Brabourne Stadium hosted Test matches from 1948 to 1972, and was the venue for Bombay Pentangular matches from 1937 until 1946. After disputes over ticketing arrangements with the CCI, the Bombay Cricket Association (BCA) built the Wankhede Stadium a few hundred metres north of Brabourne.

83. (A) Macrophages are the type of WBC which engulf cell debris , foreign substance , cancer cells and anything.

84. (B) The difference between macro and micro was introduced in 1933 by the Norwegian, Ragnar Frisch. The origin of the words says a lot about their meaning: in Greek, macro means big and micro means small. Macroeconomics studies the behaviour of economic aggregates.

85. (D) It was established by The Government of India on 12 April 1988 and given statutory powers in 1992 with SEBI Act 1992 being passed by the Indian Parliament. SEBI has its headquarters at the business district of Bandra Kurla Complex in Mumbai, and has Northern, Eastern, Southern and Western Regional Offices in New Delhi, Kolkata, Chennai and Ahmedabad respectively. It has opened local offices at Jaipur and Bangalore and is planning to open offices at Guwahati, Bhubaneshwar, Patna, Kochi and Chandigarh in Financial Year 2013-2014. The Securities and Exchange Board of India (SEBI) is the regulator for the securities market in India.

86. (B) Oligarchy :- A small group of people having control of a country or organization.

87. (B) Gujarat Government has declared ban on the use of plastic in the State for the first time. It was announced by Gujarat's first women Chief Minister Anandiben Patel after unfurling the National Flag at the Independence Day ceremony in Mahisagar district of Gujarat. This decision was taken keeping in view protection of environment, cleanliness and cattle health. It should be several municipal bodies in the state already have banned use of plastic bags thinner than 40 microns.

88. (D) Chinook winds in the interior West of North America, where the Canadian Prairiesand Great Plains meet various mountain ranges, although the original usage is in reference to wet, warm coastal winds in the Pacific Northwest.

Fohn can be initiated when deep low pressures move into Europe drawing moist Mediterranean air over the Alps

Siroccois a Mediterranean wind that comes from the Sahara and can reach hurricane speeds in North Africa and Southern Europe.

The Loo is a strong, hot and dry summer afternoon wind from the west which blows over the western Indo-Gangetic Plain region of North India and Pakistan. It is especially strong in the months of May and June.

89. (C) The Himachal Pradesh High Court has imposed a complete ban on all types of buffalo and bull fights in the hill State, stating that it is against the Prevention of Cruelty to Animals Act 1960.A Division Bench of Justices Dharmchand Chaudhary and Tarlok Chauhan, which imposed the ban on these traditional fun fights, termed them a severe brutality against the animals. The court order said that all animal fights, involving bulls or buffaloes, birds, roosters or dogs are against the Act. A PIL petition was moved by People for Animals NGO in Kasauli in 2013, seeking implementation of the Supreme Court judgment prohibiting bull fights in Tamil Nadu.

90. (C) The M3 measurement includes assets that are less liquid than other components of the money supply, and are more closely related to the finances of larger financial institutions and corporations than to those

of businesses and individuals. These types of assets are referred to as "near, near money."

91. (A) The alcohol thermometer is an alternative to the mercury in glass thermometer and has similar functions. Unlike the mercury in glass thermometer, the contents of an alcohol thermometer are less toxic and will evaporate away fairly quickly. It can measure a low temperature because its freezing point is low (-115 degree C).

94. (B) Epistasis is a phenomenon that consists of the effect of one gene being dependent on the presence of one or more 'modifier genes' (genetic background).
Similarly, epistatic mutations have different effects in combination than individually.

95. (A) The Internet Control Message Protocol (ICMP) is one of the main protocols of the internet protocol suite. It is used by network devices, like routers, to send error messages indicating, for example, that a requested service is not available or that a host or router could not be reached.

98. (C) Under Article 110 (1) of the Constitution, a Bill is deemed to be a Money Bill if it contains provisions dealing with six specific matters [Article 110 (1)(a) to (1)(f)] broadly related to imposing, abolishing or regulating a tax; regulating government borrowings; the Consolidated and Contingency Funds of India and "any matter incidental to any of the matters specified in (the previous six) sub-clauses... [Article 110(1)(g)]". The expression "incidental to" makes the definition of a Money Bill comprehensive.

99. (A) US engineers have developed the world's fastest car with a top speed of an incredible 435 kilometres per hour. US firm Hennessey's Venom GT set the new record for the fastest car in the world during a test run at the Kennedy Space Centre in Florida. Venom beat the previous best record of 431 km/h set by Bugatti Veyron Super Sport.

100. (A) Government of India Act 1935 was passed by British Parliament in August 1935. This act ended the system of dyarchy introduced by GOI Act 1919 and provided for establishment of a Federation of India to be made up of provinces of British India and some or all of the Princely states.

101. (C) ATQ,
$12x = 5x + 5y$
$7x = 5y$

$x = \dfrac{5y}{7}$

$\therefore 3x - 2y = 1$

$\Rightarrow 3 \times \dfrac{5y}{7} - 2y = 1$

$\Rightarrow \dfrac{15y}{7} - 2y = 1$

$\Rightarrow y = 7, x = 5$
$\therefore 5 + 7 \times 2 = 19 = x + 2y$

102. (A) A + B → 30 ⎫⎫ 4
B + C → 24 ⎬ 120 — 5
C + A → 20 ⎭ 6

1 day work of A + B + C = 7.5 unit/day
∴ Efficiency of A = 2.5 unit/day
Work remaining after 10 days = 45
Time taken by A to complete the work

$= \dfrac{45}{2.5} = 18$ days

103. (B) C.P. of 1st radio = ₹ $\left(\dfrac{100}{120} \times 840\right)$

= ₹ 700

C.P. of 2nd radio = ₹ $\left(\dfrac{100}{96} \times 960\right)$

= ₹ 1000
So, total C.P. = ₹ (700 + 1000) = ₹ 1700
Total S.P. = ₹ (840 + 960) = ₹ 1800

∴ Gain % = $\left(\dfrac{100}{1700} \times 100\right)\%$ = $5\dfrac{15}{17}\%$

104. (A) C.I. when interest compounded yearly

$= ₹ \left[5000 \times \left(1 + \dfrac{4}{100}\right) \times \left(1 + \dfrac{\frac{1}{2} \times 4}{100}\right)\right]$

$= ₹ \left(5000 \times \dfrac{26}{25} \times \dfrac{51}{50}\right)$

= ₹ 5304
C.I. when interest is compounded half-yearly

$= ₹ \left[5000 \times \left(1 + \dfrac{2}{100}\right)^3\right]$

$= ₹ \left(5000 \times \dfrac{51}{50} \times \dfrac{51}{50} \times \dfrac{51}{50}\right)$

= ₹ 5306.04
∴ Difference = ₹ (5306.04 – 5304) = ₹ 2.04

105. (A) Let C.P. be ₹ x

Then, $\dfrac{1920-x}{x} \times 100 = \dfrac{x-1280}{x} \times 100$

$\Rightarrow 1920 - x = x - 1280$

$\Rightarrow 2x = 3200$

$\Rightarrow x = 1600$

∴ Required S.P. = 125% of ₹ 1600

$= ₹ \left(\dfrac{125}{100} \times 1600\right) = ₹\ 2000$

106. (C) Let the speed of the train be x km/h and that of the car be y km/h.

Then, $\dfrac{120}{x} + \dfrac{480}{y} = 8$

$\Rightarrow \dfrac{1}{x} + \dfrac{4}{y} = \dfrac{1}{15}$ ...(i)

and, $\dfrac{200}{x} + \dfrac{400}{y} = \dfrac{25}{3}$

$\Rightarrow \dfrac{1}{x} + \dfrac{2}{y} = \dfrac{1}{24}$ ...(ii)

Solving (i) and (ii), we get

$x = 60$ and $y = 80$

∴ Ratio of speeds = 60 : 80 = 3 : 4

107. (B) 20% = $\dfrac{1}{5}$

Price → 5   6

Quantity → 6   5

1 kg

∴ original price = $\dfrac{36}{5}$ = ₹ 7.20

108. (D) Average of runs of first 4 matches = 42

$\Rightarrow$ sum of runs of of first four matches
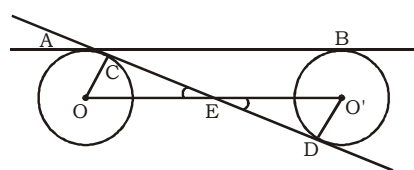
= 4 × 42 = 168

Average of runs of first 5 matches = 44

$\Rightarrow$ sum of runs of first 5 matches

= 44 × 5 = 220

Score in fifth inning = 220 – 168 = 52

109. (D)

OC = O'D = 5 cm (r)

CD = 24 cm

ΔCOE ~ ΔEO'D

∴ OE = O'E

and CE = ED = 12 cm

In ΔCOE

OE² = CE² + OC²

= 12² + 5² = 169

OE = 13

OO' = OE + EO'

AB = 26 cm

110. (D) 5% of A + 4% of B = $\dfrac{2}{3}$ (6% of A + 8% of B)

$\Rightarrow \dfrac{5}{100} A + \dfrac{4}{100} B = \dfrac{2}{3}\left(\dfrac{6}{100} A + \dfrac{8}{100} B\right)$

5A + 4B

= $4A + \dfrac{16}{3} B$

$A = \dfrac{16}{3} - \dfrac{4B}{1}$

$\Rightarrow A = \dfrac{4}{3} B = A : B = 4 : 3$

111. (C) Let the number of 25 p, 10 p and 5 p coins be x, $2x$, $3x$ respectively.

Then, sum of their values

$= ₹ \left(\dfrac{25x}{100} + \dfrac{10 \times 2x}{100} + \dfrac{5 \times 3x}{100}\right) = ₹\ \dfrac{60x}{100}$

$\therefore \dfrac{60x}{100} = 30 \Leftrightarrow x = \dfrac{30 \times 100}{60} = 50$

Hence, the number of 5 p coins

= (3 × 50) = 150

112. (C) Let the man's rate upstream be x km/h and that downstream be y km/h

Then, distance covered upstream in 8 hrs 48 min = Distance covered downstream in 4 hrs

$\Rightarrow \left(x \times 8\dfrac{4}{5}\right) = (y \times 4)$

$\Rightarrow \dfrac{44}{5} x = 4y$

$\Rightarrow y = \dfrac{11}{5} x$

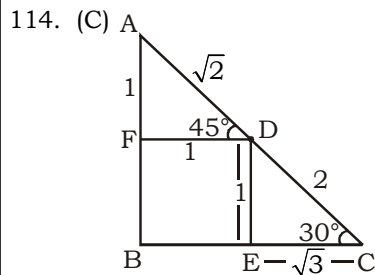∴ Required ratio = $\left(\dfrac{y+x}{2}\right) : \left(\dfrac{y-x}{2}\right)$

$= \left(\dfrac{16x}{5} \times \dfrac{1}{2}\right) : \left(\dfrac{6x}{5} \times \dfrac{1}{2}\right)$

$= \dfrac{8}{5} : \dfrac{3}{5} = 8 : 3$

113. (B) $\sin\theta = \dfrac{a}{\sqrt{a^2 + b^2}}$

$\cos\theta = \sqrt{1 - \dfrac{a^2}{a^2 + b^2}} = \sqrt{\dfrac{b^2}{a^2 + b^2}} = \dfrac{b}{a^2 + b^2}$

$\therefore \tan\theta = \dfrac{\sin\theta}{\cos\theta} = \dfrac{a}{b}$

114. (C)

In ΔDEC

$2 = 60$ (given)

$\therefore$ DE = 30 m

In ΔAFD

$\sqrt{2} = 72$ (given)

$\therefore$ AF = $\dfrac{72}{\sqrt{2}} = 36\sqrt{2}$

$\therefore$ Total height of mountain

= AF + DE

= $36\sqrt{2}$ + 30 = (50.904 + 30)

= 80.904

= 81 m (approx)

115. (A) Total number of votes polled

= (1136 + 7636 + 11628) = 20400

As we can observe that winner received 11628 votes

$\therefore$ Required percentage

= $\left(\dfrac{11628}{20400} \times 100\right)\%$ = 57%

116. (B) Diameter of the wheel = 3 metres

$\therefore$ Circumference = π × diameter

= $\dfrac{22}{7}$ × 3 = $\dfrac{66}{7}$ metres

$\therefore$ distance covered in 28 revolutions

= 28 × $\dfrac{66}{7}$ = 264 metres

$\therefore$ 5280 metres distance will be covered in

= $\dfrac{5280}{264}$ = 20 min

117. (A) Let the no. of students be 100

$\therefore$ No. of students opting both subjects = 72 + 44 − 100 = 16%

$\therefore$ total no. of students = $\dfrac{100}{16}$ × 40 = 250

118. (D) 10% = $\dfrac{1}{10}$, 20% = $\dfrac{1}{5}$, 30% = $\dfrac{3}{10}$

Price	After loss
10	9
5	4
10	7
500	252

$\downarrow$ ×12.5 $\downarrow$ ×12.5

6250   **3150** after 3 years

119. (B) Largest four digit number = 9999

Let us find the LCM of 4, 5, 7, 8 and 9.

LCM (4, 5, 7, 8, 9) = 2520

2520) 9999 (3

     7560

     2439

So, Required number = 9999 − 2439 = 7560

120. (C) $4x - 3y = 13$

Cubing both sides,

$64x^3 - 27y^3 - 3 \times 4x \times 3y(4x - 3y) = (13)^3$

$\Rightarrow 64x^3 - 27y^3 - 36(14)(13) = 2197$

$\Rightarrow 64x^3 - 27y^3 = 2197 + 6552$

$64x^3 - 27y^3 = 8749$

121. (C) $a = 180 - d$

    $= 180° - 70° = 110°$

and $c = d + \angle ACB$
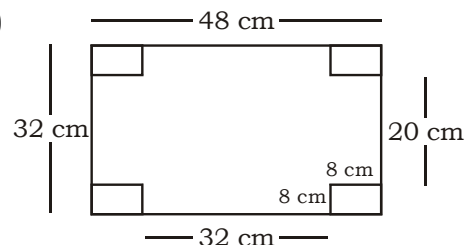
$= 70 + (180 - b)$

$= 70 + 60$
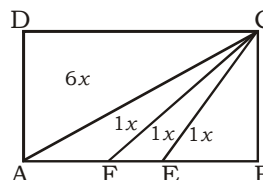
$= 130$

$\therefore$ Both (a) and (b) are correct.

122. (A)

volume of the box made of the remaining sheet

$\Rightarrow 32 \times 20 \times 8$

$\Rightarrow 5120$ cm^3

123. (B)

Let the area of $\llcorner\!\!\!\!\lrcorner$ ABCD = $6x$ unit

area ΔCAF = area ΔCEF = area ΔCEB = $1x$ unit

$\therefore$ required ratio = 1 : 6

124. (C) Since the numbers are co-prime, they contain only 1 as the common factor.
Also, the given two products have the middle number in common.
So, middle number
= H.C.F. of 551 and 1073 = 29

First number = $\left(\dfrac{551}{29}\right)$ = 19

Third number = $\left(\dfrac{1073}{29}\right)$ = 37

∴ Required sum = (19 + 29 + 37) = 85

125. (D) We need to know the S.I., principal and time to find the rate.
Since the principal is not given, so data is inadequate.

126. (C) Suppose, first pipe alone takes x hours to fill the tank.
Then, second and third pipes will take $(x - 5)$ and $(x - 9)$ hours respectively to fill the tank.

∴ $\dfrac{1}{x} + \dfrac{1}{(x-5)} = \dfrac{1}{(x-9)}$

⇒ $\dfrac{x-5+x}{x(x-5)} = \dfrac{1}{(x-9)}$

⇒ $(2x - 5)(x - 9) = x(x - 5)$
⇒ $x^2 - 18x + 45 = 0$
$(x - 15)(x - 3) = 0$
⇒ $x = 15.$ [neglecting $x = 3$]

127. (A) $\dfrac{\tan\theta + \sin\theta}{\tan\theta - \sin\theta}$

$\dfrac{\dfrac{\sin\theta}{\cos\theta} + \sin\theta}{\dfrac{\sin\theta}{\cos\theta} - \sin\theta} = \dfrac{\sin\theta\left(\dfrac{1}{\cos\theta}+1\right)}{\sin\theta\left(\dfrac{1}{\cos\theta}-1\right)} = \dfrac{\sec\theta+1}{\sec\theta-1}$

128. (C) Number of pages typed by Santa in 1 hour

$= \dfrac{32}{6} = \dfrac{16}{3}$

Number of pages typed by Banta in 1 hour

$= \dfrac{40}{5} = 8$

Number of pages typed by both in 1 hour

$= \left(\dfrac{16}{3}+8\right) = \dfrac{40}{3}$

∴ Time taken by both to type 110 pages

$= \left(110 \times \dfrac{3}{40}\right)$ hours

$= 8\dfrac{1}{4}$ hours (or) 8 hours 15 minutes

129. (C) $\sin^6\theta + \cos^6\theta + 3\sin^2\theta\cos^2\theta$
$= [(\sin^2\theta)^3 + (\cos^2\theta)^3] + 3\sin^2\theta\cos^2\theta$
$= (\sin^2\theta + \cos^2\theta)^3 - 3\sin^2\theta\cos^2\theta(\sin^2\theta\cos^2\theta)$
$\qquad\qquad\qquad\qquad + 3\sin^2\theta\cos^2\theta$
$= (1)^3 - 3\sin^2\theta\cos^2\theta(1) + 3\sin^2\theta\cos^2\theta$
$= 1$

130. (D) ATQ,
∠APR = ∠PRD (Alternate angles)
⇒ 50° + y = 127°
⇒ y = 127° − 50 = 77°
Also, ∠APQ = ∠PQR
⇒ 50° = x
∴ xy = 50 × 77
= 3850

131. (B) $\dfrac{x}{y} = \dfrac{\left(\dfrac{a^2-81}{a^2-64}\right)}{\dfrac{(a+9)}{a+8}}$

$= \dfrac{\dfrac{(a+9)(a-9)}{(a+8)(a-8)}}{\left(\dfrac{a+9}{a+8}\right)} = \dfrac{(a-9)}{(a-8)}$

∴ The value of = $\dfrac{y}{x} = \left(\dfrac{a-8}{a-9}\right)$

132. (A) $\dfrac{\sin 36°}{\cos 54°} - \dfrac{\sin 54°}{\cos 36°}$

$= \dfrac{\sin 36°}{\cos(90°-36°)} - \dfrac{\sin(90°-36°)}{\cos 36°}$

$= \dfrac{\sin 36°}{\sin 36°} - \dfrac{\cos 36°}{\cos 36°} = 1 - 1 = 0$
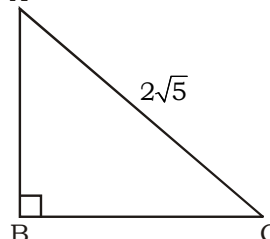
133. (A) $\dfrac{9x}{2} - \dfrac{9}{x} = -18$

$9\left(\dfrac{x}{2}-\dfrac{1}{x}\right) = -18 \Rightarrow \dfrac{x}{2}-\dfrac{1}{x} = -2$

Squaring both sides,

$\dfrac{x^2}{4} + \dfrac{1}{x^2} - 2 \times \dfrac{x}{2} \times \dfrac{1}{x} = 4$

⇒ $\dfrac{x^2}{4} + \dfrac{1}{x^2} = 5$

134. (B) A

$2\sqrt{5}$

B   C

Let BC = x ∴ AB = x + 2
$AC^2 = AB^2 + BC^2$

$\Rightarrow (2\sqrt{5})^2 = (x+2)^2 + x^2$

$20 = x^2 + 4 + 4x + x^2$

$\Rightarrow 2x^2 + 2x - 8 = 0$

$x = 2 = BC$

$AB = 2 + 2 = 4$ cm

$\therefore \cos^2 A - \cos^2 C = \left(\dfrac{AB}{AC}\right)^2 - \left(\dfrac{BC}{AC}\right)^2$

$= \dfrac{16}{20} - \dfrac{4}{20} = \dfrac{3}{5}$

135. **(C)** ATQ,

$3x + \dfrac{1}{2x} = 5$

On multiplying both sides by $\dfrac{2}{3}$,

$2x + \dfrac{1}{3x} = \dfrac{10}{3}$

Cubing both sides,

$8x^3 + \dfrac{1}{27x^3} + 3 \times 2x \times \dfrac{1}{3x}\left(2x + \dfrac{1}{3x}\right) = \dfrac{1000}{27}$

$\Rightarrow 8x^3 + \dfrac{1}{27x^3} = \dfrac{1000}{27} - \dfrac{20}{3}$

$= \dfrac{1000 - 180}{27} = \dfrac{820}{27} \Rightarrow 30\dfrac{10}{27}$

136. **(C)**

137. **(A)** Total age of remaining 6 children
$= 12 \times 7 - 6$
$= 84 - 6 = 78$ years

$\therefore$ Their average age $= \dfrac{78}{6} = 13$ years

138. **(B)** Let the quantity of the wine in the cask originally be x litres.
Then, quantity of wine left in cask after 4

operations $= \left[x\left(1 - \dfrac{8}{x}\right)^4\right]$ litres

$\therefore \left(\dfrac{x\left(1-\left(\dfrac{8}{x}\right)\right)^4}{x}\right) = \dfrac{16}{81}$

$\Rightarrow \left(1 - \dfrac{8}{x}\right)^4 = \left(\dfrac{2}{3}\right)^4$

$\Rightarrow \left(\dfrac{x-8}{x}\right) = \dfrac{2}{3}$

$\Rightarrow 3x - 24 = 2x$

$\Rightarrow x = 24$

139. **(A)** Let the duration of the flight be x hours.

Then, $\dfrac{600}{x} - \dfrac{600}{\left(x + \dfrac{1}{2}\right)} = 200$

$\Rightarrow \dfrac{600}{x} - \dfrac{1200}{2x + 1} = 200$

$\Rightarrow x(2x + 1) = 3$

$\Rightarrow 2x^2 + x - 3 = 0$

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

$\Rightarrow x = 1$ hr [neglecting the -ve value of x]

140. **(C)** tan (90 – 80) tan (90 – 75) tan 75 + tan 80
cot 80 cot 75° tan 75° tan 80
= 1

141. **(B)**

Let the height of the cylinder be h cm.
Then h + 7 + 7 = 104
h = 90
surface area of the solid = 2 × curved surface are of hemisphere + curv surface area of cylinder

$= (2 \times 2 \times \dfrac{22}{7} \times 7 \times 7 + 2 \times \dfrac{22}{7} \times 7 \times 90)$ cm²

= 616 + 3960 cm²
= 4576 cm²
Cost of polishing the surface of the solid

$= \dfrac{₹\, 4576 \times 1}{100} = ₹\ 45.76$

142. **(D)** Let C = x
Then, B = x + 5000 and A = x + 5000 + 4000
= x + 9000
So, $x + x + 5000 + x + 9000 = 50000$
$\Rightarrow 3x = 36000$

$\Rightarrow x = 12000$

A : B : C = 21000 : 17000 : 12000

= 21 : 17 : 12

$\therefore$ A's share = ₹ $\left(35000 \times \dfrac{21}{50}\right)$ = ₹ 14,700

143. (D) Let $2^{32} = x$

Then, $(2^{32} + 1) = (x + 1)$

Let $(x + 1)$ be completely divisible by the natural N. Then,

$(2^{96} + 1) = [(2^{32})^3 + 1] = (x^3 + 1)$

$= (x + 1)(x^2 - x + 1)$, which is completely divisible by N, since $(x + 1)$ is divisible by N.

144. (A) $4(\sin^4 30° + \cos^4 60°) - 3(\cos^2 45° - \sin^2 90°)$

$= 4\left[\left(\dfrac{1}{2}\right)^4 + \left(\dfrac{1}{2}\right)^4\right] - 3\left[\left(\dfrac{1}{\sqrt{2}}\right)^2 + 1^2\right]$

$= 4\left[\dfrac{1}{16} + \dfrac{1}{16}\right] - 3\left[\dfrac{1}{2} - 1\right]$

$= \dfrac{4 \times 2}{16} + \dfrac{3}{2}$

$= \dfrac{1}{2} + \dfrac{3}{2} = 2$

145. (A) Volume of the water running through pipe per hour.

$= \dfrac{20}{100} \times \dfrac{20}{100} \times 15000 = 600$ cubic m

$\therefore$ Required time = $\dfrac{60 \times 6.5 \times 80}{600}$ = 52 hrs

146. (C) Required Average

$= \dfrac{(5 + 10 + 25 + 20 + 25 + 15) \times 1000}{6}$

$= \dfrac{100000}{6} = 16666\dfrac{2}{3}$

147. (D) Required % = $\dfrac{\text{(X+ Y+ Z) in 1957}}{\text{(X+ Y+ Z) in 1958}} \times 100\%$

$= \dfrac{55 \times 1000}{60 \times 1000} \times 100\%$

= 91.67%

148. (D) Required % = $\dfrac{\text{X in 1956}}{\text{(X+ Y+ Z) in 1956}} \times 100\%$

$= \dfrac{20 \times 1000}{55 \times 1000} \times 100\%$

= 36.37% (approx)

149. (B) Respective Ratio = (Z in 1955) : (Z in 1954)

= (15 × 1000) : (10 × 1000)

= 3 : 2

150. (D) Required number = Y in 1958 + Y in 1959

= (25 × 1000) + (15 × 1000)

= 40 × 1000

= 40000

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Applaud	show approval or praise by clapping	प्रशंसा करना
Bounty	a monetary gift or reward typically given by a government, in particular	उदारता, उपहार
Bring out	to make something appear	बाहर निकालना
Brush aside	to ignore somebody/something	उपेक्षा करना
Credible	able to be believed; convincing	विश्वसनीय
Deception	the act of deceiving someone	छल, धोखा
Detrimental	tending to cause harm	हानिकारक
Dissipate	to waste(money, energy, or resources)	नष्ट करना
Ecstasy	an overwhelming feeling of great happiness or joyful excitement	परम आनंद
Empathy	the ability to understand and share the feelings of another	हमदर्दी
Erudition	great academic knowledge	विद्वता
Feasible	possible to do easily or conveniently	सम्भाव्य, होने योग्य
Harangue	a long loud angry speech that criticizes somebody/something	उग्र भाषण
Impair	to damage something or make something worse	खराब करना
Impede	delay or prevent (someone or something) by obstructing them	बाधा डालना
Impervious	something not allowing a liquid or gas or any other thing to pass through	अभेद्य
Incorrigible	something which cannot be changed or improved	जिसमें सुधार ना हो सके
Indelible	impossible to forget or removed	जो मिट न सके
Inexplicable	that cannot be understood or explained	गूढ़, वर्णन से परे
Infringements	an act of breaking a law or rule	उल्लंघन
Irreverence	the quality of not showing respect to somebody/something	अनादर, अपमान
Malevolence	a desire to harm other people	द्वेष भाव
Misanthrope	a person who hates and avoids other people	मानवद्रोही
Misogynist	a man who hates women	महिलाओं से घृणा करने वाला
Paucity	the presence of something only in small or insufficient quantities or amounts	कमी
Perfidy	unfair treatment of somebody who trusts you	विश्वासघात
Polygamist	a person who has more than one wife at the same time	अनेक पत्नियों वाला व्यक्ति
Promenade	a public place for walking, usually a wide path beside the sea	समंदर किनारे टहलने का सार्वजनिक मार्ग
Prompt	(of an event or fact) cause or bring about (an action or feeling)	प्रेरित करना
Rebuke	express sharp disapproval or criticism of someone	भर्त्सना करना, फटकारना
Refrain	stop oneself from doing something	बचना, परहेज करना
Refute	prove (a statement or theory) to be wrong or false	झूठा ठहराना
Shibboleth	a custom, word, etc. that distinguishes one group of people from another	किसी पंथ का मुख्य व्यवहार
Site	place of construction	निर्माण स्थल
Stroll	to walk somewhere in a slow relaxed way	चहलकदमी करना
Tramp	a person with no home or job who travels from place to place, asking for food or money	भिखारी
Transgression	an act that goes beyond the limits of what is morally or legally acceptable	उल्लंघन, अतिक्रमण
Treachery	behaviour that involves not being loyal to somebody who trusts you	विश्वासघात
Triplet	a set or succession of three similar things	तीन समान वस्तुओं का समूह
Tyranny	unfair or cruel use of power or authority	अन्याय, अत्याचार
Triphthong	a combination of three vowel sounds or vowel letters	एक ध्वनि उत्पन्न करने वाले तीन स्वर
Uprightness	behaviour or attitudes that are very moral and honest	ईमानदारी
Volition	the power to choose something freely or to make your own decisions	इच्छाशक्ति, संकल्प

SSC MOCK TEST - 44 (ANSWER KEY)

1. (C)	26. (A)	51. (D)	**76. (D)**	101. (C)	126. (C)	151. (C)	176. (A)
2. (A)	27. (C)	52. (D)	77. (C)	102. (A)	127. (A)	152. (C)	177. (D)
3. (C)	28. (A)	53. (B)	78. (C)	103. (B)	128. (C)	153. (C)	178. (B)
4. (B)	29. (B)	54. (D)	79. (C)	104. (A)	129. (C)	154. (A)	179. (B)
5. (B)	30. (A)	55. (D)	80. (D)	105. (A)	130. (D)	155. (B)	180. (C)
6. (D)	31. (B)	56. (A)	81. (B)	106. (C)	131. (B)	156. (C)	181. (D)
7. (C)	32. (A)	57. (C)	82. (B)	107. (B)	132. (A)	157. (C)	182. (D)
8. (B)	33. (C)	58. (D)	83. (A)	108. (D)	133. (A)	158. (C)	183. (A)
9. (C)	34. (B)	**59. (C)**	84. (B)	109. (D)	134. (B)	159. (B)	184. (C)
10. (D)	35. (C)	60. (A)	85. (D)	110. (D)	135. (C)	160. (C)	185. (A)
11. (B)	36. (B)	61. (B)	86. (B)	111. (C)	136. (C)	161. (B)	186. (C)
12. (A)	37. (C)	62. (D)	87. (B)	112. (C)	137. (A)	162. (A)	187. (D)
13. (A)	38. (D)	63. (B)	88. (D)	113. (B)	138. (B)	163. (C)	188. (B)
14. (B)	39. (A)	64. (C)	89. (C)	114. (C)	139. (A)	164. (A)	189. (B)
15. (B)	40. (C)	65. (D)	90. (C)	115. (A)	140. (C)	165. (D)	190. (A)
16. (A)	41. (C)	66. (A)	91. (A)	116. (B)	141. (B)	166. (C)	191. (D)
17. (C)	42. (C)	67. (D)	92. (B)	117. (A)	142. (D)	167. (A)	192. (B)
18. (D)	43. (A)	68. (D)	93. (A)	118. (D)	143. (D)	168. (B)	193. (D)
19. (D)	44. (A)	69. (A)	94. (B)	119. (B)	144. (A)	169. (B)	194. (B)
20. (C)	45. (D)	70. (B)	95. (A)	120. (C)	145. (A)	170. (C)	195. (C)
21. (B)	46. (B)	71. (C)	96. (B)	121. (C)	146. (C)	171. (C)	196. (C)
22. (B)	47. (C)	72. (A)	97. (A)	122. (A)	147. (D)	172. (D)	197. (B)
23. (C)	48. (C)	**73. (B)**	98. (C)	123. (B)	148. (D)	173. (B)	198. (C)
24. (A)	49. (B)	74. (A)	99. (A)	124. (C)	149. (B)	174. (C)	199. (D)
25. (A)	50. (D)	75. (C)	**100. (B)**	125. (D)	150. (D)	175. (B)	200. (D)

151. (C) Here, we require an adjective i.e, 'accidental', or put an article 'an' before 'accident'.

152. (C) Replace 'till' by 'since', as it is used for point of time i.e., yesterday.

153. (C) Replace 'since' by 'for', as 'the last two years' refers to period of time for which 'for' is used.

154. (A) Remove 'do not'. 'Not' doesn't come after 'unless'.

155. (B) Replace 'what' by 'which'.

179. (B); Adjectives ending in 'ior' takes 'to' and not 'than' after them.

Mock Test 43 (Corrections)

31. Answer is (C).

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

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