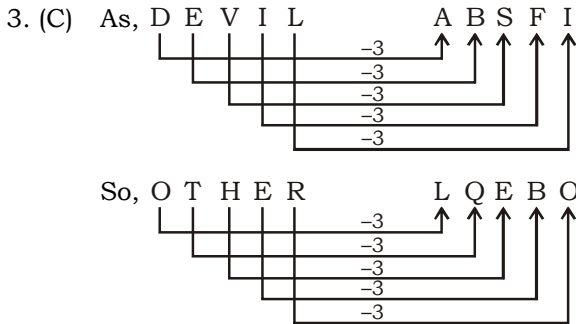


SSC MOCK TEST – 41 (SOLUTION)

1. (C) Manipuri is a folk dance of Manipur and Kathakali is a folk dance of Kerala.
2. (B) Student follows the teacher and disciple follows the religious leader.



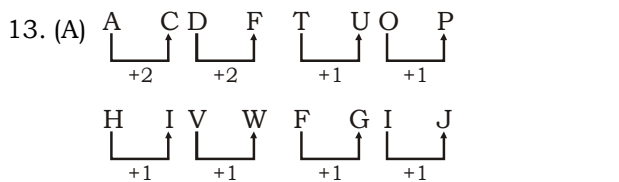
4. (A) 182 342 210 380
 ↓ ↓ ↓ ↓
 13^2+13 18^2+18 14^2+14 19^2+19

5. (C) As, $5 + 1 = 6 \Rightarrow 6^2 = 36$
So, $6 + 1 = 7 \Rightarrow 7^2 = 49$

6. (C) As, A D H M
 ↓ ↓ ↓ ↓ opposite
 Z W S N
- Similarly, C F J O
 ↓ ↓ ↓ ↓ opposite
 X U Q L

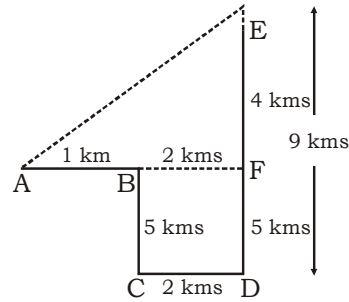
7. (D) As smoke results pollution similarly battle results Destruction.
8. (C) First word is the antonyms of second word.
Note: In english language, 'Cheater' is not correct though commonly used.
9. (C) Except Kohima, others are state.
10. (D) 761 is a prime number.

11. (D) 117 13 162 18 171 19 304 16
 ⤵ ⤵ ⤵ ⤵ ⤵ ⤵ ⤵
 $\times 9$ $\times 9$ $\times 9$ $\times 19$
12. (D) In rest of the options, the first word is a smaller form of second word.



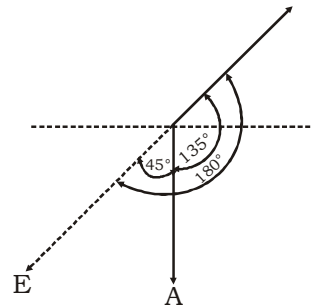
14. (D) $1^2 - 1 = 0$, $2^2 - 1 = 3$, $3^2 - 1 = 8$,
 $4^2 - 1 = 15 \neq 27$
15. (C) Narmada falls in Arabian Sea where as the rest three falls in Bay of Bengal.
16. (C) Except option (C), rest comply a combination of cube and square of whole numbers.

17. (B)
18. (B) The region which represents all three i.e., owner, broker and worker is 'T'
19. (C)



- AF = 3 kms, EF = 4 kms
 $\therefore AE = \sqrt{3^2 + 4^2} = \sqrt{9+16} = \sqrt{25} = 5$ kms
So, he is 5 kms away from the starting point.

20. (B)



Point E is his current position which is in South-west direction.

21. (D) Current Ratio of age

$$7 : 9$$

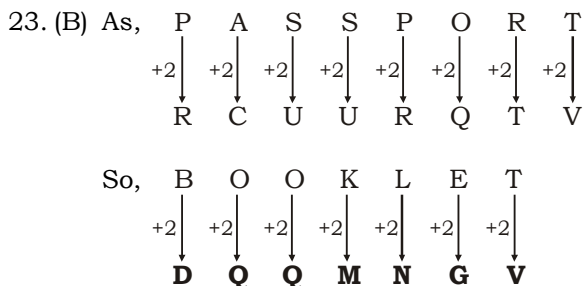
Sachin Rahul

Difference = $9 - 7 = 2$

Here, it is given that $2 = 7$ years
As given sachin's ratio is 7,

So, $7 = \frac{7}{2} \times 7$ years = 24.5 years

22. (C) Sunita's Grandfather's only son is his father and father's son is his brother.



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24. (B) $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, \frac{9}{32}, \frac{11}{64}, ?$

Here we have two series-

1st series:- 1, 3, 5, 7, 9, 11, 13
 $\xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2}$

2nd series:- 2, 4, 8, 16, 32, 64, 128
 $\xrightarrow{\times 2} \xrightarrow{\times 2} \xrightarrow{\times 2} \xrightarrow{\times 2} \xrightarrow{\times 2} \xrightarrow{\times 2}$

So next term is $\frac{13}{128}$.

25. (D) As, T E A C H E R
 $\xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2}$
 V G C E J G T

So, C H I L D R E N
 $\xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2} \xrightarrow{+2}$
 E J K N F T G P

26. (A) Here we can count 12 squares in the given figure.

27. (A) $Z = 52 = 2 \times (26)$ → actual position in english alphabet
 $ACT = 2 \times (1 + 3 + 20)$ → actual position in english alphabet
 $= 2 \times 24 = 48$
 $EAT = 2 \times (5 + 1 + 20)$ → actual position in english alphabet
 $= 2 \times 26 = 52$

28. (C) Q P N K A Z X U
 $\xrightarrow{+1} \xrightarrow{+3} \xrightarrow{+1} \xrightarrow{+3}$
 U T R N S R P M
 $\xrightarrow{+1} \xrightarrow{+4} \xrightarrow{+1} \xrightarrow{+3}$

29. (C)

3 days	2 days	1 day				day
before yest.	before yest.	before yest.	yest.	Today	Tmw.	after tmw.
Sun	Mon	Tues	Wed	Thur	Fri	Sat

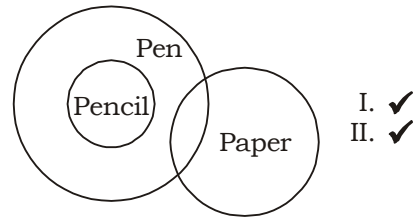
So, we can say that 3 days before yesterday was Sunday.

30. (D) Given:- $(18 + 10 \times 20) - 8 \div 6$
 After interchanging the sign we have,
 $(18 \times 10 + 20) \div 8 - 6$
 $= (180 + 20) \div 8 - 6$
 $= 200 \div 8 - 6$
 $= 25 - 6 = 19$

31. (D) Number of people who know all three subjects = 100
 Number of people who know only civics = 170

∴ Required Ratio = $\frac{100}{170} = \frac{10}{17}$

32. (D)



- I. ✓
- II. ✓

Both (I) & (II) follow.

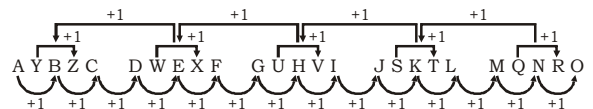
33. (D) The word 'COMMUNICATE' can't be formed from the word 'RECOMMENDATION' as we can't find the word 'U' in RECOMMENDATION.

34. (C) The correct order is-
 2 → 4 → 1 → 5 → 3
 population unemployment poverty disease death

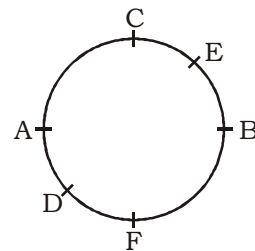
35. (C) 125 80 45 20 5
 $\xrightarrow{-45} \xrightarrow{-35} \xrightarrow{-25} \xrightarrow{-15}$
 $\xrightarrow{+10} \xrightarrow{+10} \xrightarrow{+10}$

36. (C) J 2 Z K 4 X L 7 V M 11 T N 16 R O 22 P
 $\xrightarrow{+2} \xrightarrow{+3} \xrightarrow{+4} \xrightarrow{+5} \xrightarrow{+6}$
 $\xrightarrow{+1} \xrightarrow{+1} \xrightarrow{+1} \xrightarrow{+1} \xrightarrow{+1}$

37. (B)



38. (B)



Above mentioned is the position of six persons on a circular table as per given data.

We can clearly see that F is the person sitting to the left of B.

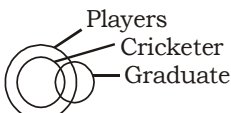
39. (D) $\frac{25 \times 12}{5} = 60$

$\frac{18 \times 17}{2} = 153$

$\frac{36 \times 16}{?} = 96 \Rightarrow ? = \frac{36 \times 16}{96} = 6$

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40. (D) $\begin{matrix} \boxed{3} & \boxed{4} & \boxed{5} \\ \times 2 \\ \hline \boxed{6} & \boxed{8} & \boxed{10} \\ \hline \boxed{216} & \boxed{512} & \boxed{?} \end{matrix}$
 $x = 6, 8, 10 \Rightarrow x^3 = 216, 512, 1000$
 So, ? = **1000**
41. (A) $16 = 9 + 4 + 3$
 $36 = 25 + 6 + 5$
 $64 = ? + 8 + 7$
 $\Rightarrow ? = 64 - 15 = \mathbf{49}$
42. (C) a a b c d / a b c d / a b c c d / a b c d d
 So, we have **adbbad** as the right answer.
43. (B) We can observe from the given diagram that number 3 represents indian professors who are also lawyers.
44. (C) As, $\begin{matrix} S & T & O & P \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 19 & 20 & 15 & 16 \Rightarrow 19201516 \\ \text{So, } P & O & T & S \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 16 & 15 & 20 & 19 \Rightarrow 16152019 \end{matrix}$
45. (C) Given equation:-
 $8 \times 2 + 3 - 5 = 21$
 let us change 'x' and '-' signs
 then we have
 $8 - 2 + 3 \times 5$
 $= 8 - 2 + 15$
 $= 23 - 2$
 $= 21$
 So, (C) is the right option.
46. (D) 
 The diagram shows three overlapping circles labeled 'Players', 'Cricketer', and 'Graduate'. The intersection of 'Players' and 'Cricketer' is shaded, representing the set of cricketers who are also players.
47. (D) $5 = 3^2 - 2^2$
 $21 = 5^2 - 2^2$
 $20 = 6^2 - 4^2$
 $x = 4^2 - 3^2$
 $\Rightarrow 16 - 9 = 7$
 $\Rightarrow x = \mathbf{7}$
48. (C)
 49. (B)
 50. (D)
51. (A) 'Antara' is an Indonesian news agency organized as a private company under the Ministry of State-owned Enterprises. It is the country's national news agency, supplying news reports to the many domestic media organization. It is the only organization authorized to distribute news material created by foreign news agencies.
53. (B) Catalyst is a substance that increases the rate of a chemical reaction without undergoing any permanent chemical change in itself.
54. (C) The basic aim of Black Revolution is to increase the amount of Crude Oil (Petroleum) production. With this plan, the
61. (B) The Rights of the Child was adopted by the General Assembly on 20th November 1959 and recognized in the Universal Declaration of Human Rights.
62. (B) A tough, semitransparent substance that is the main component of the exoskeletons of arthropods, such as the shells of crustaceans and the outer coverings of insects. Chitin is a carbohydrate and is found in the cell walls of certain fungi and algae.
63. (A) The Amaltas (botanical name is Cassia fistula), Indian Laburnum Tree is a very valuable medicinal tree and has been used in Ayurveda as a gentle laxative, which can be taken safely even by children and expectant mothers.
64. (A) Urease is an enzyme that catalyzes the hydrolysis of urea, forming ammonia and carbon dioxide. Found in large quantities in jack beans, soybeans and other plant seeds, it also occurs in some animal tissues and intestinal microorganisms. Urease is significant in the history of enzymology as the first enzyme to be purified and crystallized (by James B. Sumner in 1926). This achievement laid the groundwork for the subsequent demonstration that urease and other enzymes are proteins.
66. (C) Political sovereignty is sometimes called supreme will. It includes control of a specific state granted through a constitution or other enabling law and carried out through an established government.
67. (A) Dr. Manmohan Singh led the India delegation to the first world conference on human right. The World Conference on Human Rights was held by the United Nations in Vienna, Austria, on 14 to 25 June 1993.
68. (B) The Merino is an economically influential breed of sheep prized for its wool. Its wool was already very highly valued in the Middle Ages. Today, Merinos are regarded as having some of the finest and softest wool of any sheep.
70. (C) The High Yielding Variety Programme (HYVP) was launched in the Kharif of 1966-67 with an objective to attain self-sufficiency in food by 1970-71. The core philosophy of the programme was to increase the productivity of food grains by adopting latest varieties of inputs of crops. The Farmers were extended finance through

- a relaxed mechanism by the Reserve Bank of India through the Central Cooperative Banks. This programme in the 4th five year plan was a major breakthrough and a turning point in the history of agriculture development in India.
71. (D) Gastrin is a peptide hormone that stimulates secretion of gastric acid (HCl) by the parietal cells of the stomach and aids in gastric motility. It is released by G cells in the pyloric antrum of the stomach, duodenum and the pancreas.
72. (D) The gravity of the Sun keeps the planets in their orbits. They stay in their orbits because there is no other force in the Solar System which can stop them.
73. (D) World No Tobacco Day (WNTD) is observed around the world every year on May 31. It is intended to encourage a 24-hour period of abstinence from all forms of tobacco consumption around the globe. The day is further intended to draw attention to the widespread prevalence of tobacco use and to negative health effects, which currently lead to nearly 6 million deaths each year worldwide, including 600,000 of which are the result of non-smokers being exposed to second-hand smoke.
76. (A) El Nino is a climate cycle in the Pacific Ocean with a global impact on weather patterns. The cycle begins when warm water in the western tropical Pacific Ocean shifts eastward along the equator toward the coast of South America.
80. (A) The Satavahanas (IAST: Satavahana), were an Indian dynasty based in the Deccan region. The beginning of the Satavahana rule is dated variously from 271 BCE to 30 BCE. Satavahanas dominated the Deccan region from 1st century BCE to 3rd century CE.
82. (B) A star topology is a topology for a Local Area Network (LAN) in which all nodes are individually connected to a central connection point, like a hub or a switch. A star takes more cable than e.g. a bus, but the benefit is that if a cable fails, only one node will be brought down.
84. (B) The Vernal equinox is also called Spring equinox. An equinox is an astronomical event in which the plane of Earth's equator passes through the center of the Sun which occurs twice each year that is around 20th March and 23rd September.
85. (A) The 38 elements in groups 3 through 12 of the periodic table are called "transition metals". As with all metals, the transition elements are both ductile and malleable, and it conduct electricity and heat.
86. (A) J. B. Dunlop invented pneumatic rubber tire in 1887.
87. (B) It is an international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology. Opened for signature in 1968, the Treaty entered into force in 1970. On 11th May 1995, the Treaty was extended indefinitely. A total of 191 states have joined the Treaty, though North Korea, which acceded to the NPT in 1985 but never came into compliance, announced its withdrawal in 2003. Four UN member states have never joined the NPT: India, Israel, Pakistan and South Sudan.
88. (B) BC 250 - AD 250: Mushikavamsa (also called Ezhimalai Kingdom, Puzhinadu or Konkanam) was an ancient kingdom of Sangam period in the present day northern Kerala. They ruled the strip of land between Mangalore in the north and Vadagara in the south. Ezhimalai is the capital of Mushikavamsa. Ezhimalai Konkanam Nannan was the most powerful ruler of Ezhimalai, he expanded the kingdom to Wayanad, Gudallore and to parts of Coimbatore.
89. (D) Masti Venkatesa Iyengar (6 June 1891 – 6 June 1986) was a well-known writer in Kannada language. He was the fourth among Kannada writers to be honoured with the Jnanpith Award,[1] the highest literary honour conferred in India.[2] He was popularly referred to as Masti Kannadada Aasti which means Maasti is Kannada's Treasure. He is most renowned for his short stories. He wrote under the pen name Srinivasa. He was honoured with the title Rajasevasakta by then Maharaja of Mysore Nalvadi Krishnaraja Wodeyar.
90. (D) pH-Potential of Hydrogen
The concentration of hydrogen ions is commonly expressed in terms of the pH scale. It represents the ratio of Hydronium ions (H₃O) to Hydroxide ions (OH). High pH corresponds to low hydrogen ion concentration and vice versa. pH varies in the range of 1 to 14. The solution closer to 1 is highly acidic, while the solution closer to 14 is the strong base. A neutral liquid (Pure water at 25°C) has pH of 7.
91. (A) The World Wide Web is the primary tool billions of people use to interact on the Internet. Web pages are primarily text documents formatted and annotated with Hypertext Markup Language (HTML).
94. (D) Jude Felix was Former India captain of hockey team and has also been appointed as coach of the senior men's national



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- hockey.
95. (A) Say's law, or the law of markets, found in classical economics, states that aggregate production necessarily creates an equal quantity of aggregate demand.
96. (C) The Ranjit Sagar Dam, also known as the Thein Dam, is part of a hydroelectric project constructed by the Government of Punjab on the Ravi River in the state of Punjab.
97. (C) Garampani Wildlife Sanctuary is a 6.05-square-kilometre (2.34 sq mi) wildlife sanctuary located in Karbi Anglong district, Assam which 25 km (16 mile) from Golaghat.
98. (B) Sri Lanka got the status of Test playing country in 1981, and beat India in the 1979 World Cup. Before this they were champion of ICC non-test playing countries.
100. (A) The reservation of 27% government jobs for other Backward Classes declared for the first time was in the year 1990 by the Vishwanath Pratap Singh government.

101. (C) Selling price = $60 \times \frac{115}{100} \times \frac{120}{100} = ₹ 82.8$

102. (D) **Short trick:-**
Let the lengths of the trains be $2x$ & x m
Total distance = Relative speed \times time
 $= 90 \times \frac{5}{18} \times 12 = 300$ m
 $x + 2x = 300, x = 100$ and $2x = 200$
and it crosses the platform in 45 seconds,
 \therefore total distance covered in 45 seconds.

$= 48 \times \frac{5}{18} \times 45 = 600$ m

length of platform = $600 - 200 = 400$ m

103. (A) Let the cost price of each goat = ₹ 100

C.P		S.P	
1st goat	$\longrightarrow 100_{\times 9} \xrightarrow{-20\%}$	80 _{\times 9}	} same
2nd goat	$\longrightarrow 100_{\times 5} \xrightarrow{+44\%}$	144 _{\times 5}	

\therefore cost price of 1st goat
 $= \frac{900}{1400} \times 1008 = ₹ 648$

104. (A) 1st speed = $\frac{500}{4} = 125$ km/h

2nd speed = $\frac{450}{5} = 90$ km/h

\therefore Required % = $\frac{35}{125} \times 100 = 28\%$

105. (D) Let the time taken by 3 men = x days
time taken by 9 women = $x + 5$ days
 $3m = x$ day

$2m = \frac{3x}{2}$ days

Similarly, $9w = x + 5$ days

$3w = 3(x + 5)$ days

ATQ,

$\frac{2}{3x} + \frac{1}{3(x+5)} = \frac{1}{6} \Rightarrow \frac{2x+10+x}{3x(x+5)} = \frac{1}{6}$

$\Rightarrow 18x + 60 = 3x^2 + 15x \Rightarrow 3x^2 - 3x - 60 = 0$

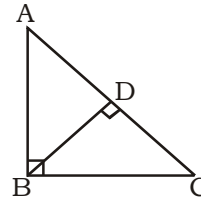
$\Rightarrow x^2 - x - 20 = 0 \Rightarrow x = 5$

Time taken by 1 man = $3x = 3 \times 5 = 15$ days

Time taken by 1 women = $9(x + 5) = 90$ days

Required output = 6 times

106. (B)



In $\triangle ABC$ and $\triangle BCD$
 $\therefore \triangle ABC \sim \triangle BCD$ (by AA)
 $\Rightarrow BC^2 = AC \times CD$

$\Rightarrow \frac{AC}{BC} = \frac{AB}{BD} = \frac{BC}{CD}$

$\Rightarrow CD = \frac{BC^2}{AC}$

107. (B) Let the given number be x .
Then,

$\left(x \times \frac{3}{2}\right) - \left(x \div \frac{3}{2}\right) = 10$

$\Rightarrow \frac{3}{2}x - \frac{2}{3}x = 10$

$\Rightarrow \frac{9x - 4x}{6} = 10$

$\Rightarrow 5x = 60$

$\Rightarrow x = 12$

108. (B) SI = ₹ (7200 - 6000)
= ₹ 1200

$\therefore SI = \frac{P \times R \times T}{100}$

$\Rightarrow 1200 = \frac{6000 \times R \times 4}{100}$

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$$\Rightarrow R = \frac{1200 \times 100}{6000 \times 4} = 5\%$$

New rate of R = $5 \times 1.5 = 7.5\%$

$$\text{Then, SI} = \frac{6000 \times 7.5 \times 5}{100} = ₹ 2250$$

$$\therefore \text{Amount} = ₹ (6000 + 2250) = ₹ 8250$$

109. (C) The LCM of 12, 18, 21, 30

$$\begin{array}{r|l} 2 & 12, 18, 21, 30 \\ 3 & 6, 9, 21, 15 \\ \hline & 2, 3, 7, 5 \end{array}$$

$$\therefore \text{LCM} = 2 \times 3 \times 2 \times 3 \times 7 \times 5 = 1260$$

\therefore The required number

$$= \frac{1260}{2} = 630$$

110. (C) Let the principal be x

$$\therefore \text{Principal SI} = \frac{7x}{4}$$

$$\therefore \text{SI} = \frac{7x}{4} - x = \frac{3x}{4}$$

$$\text{Rate} = \frac{\text{SI} \times 100}{\text{Principal} \times \text{Time}}$$

$$= \frac{3x \times 100}{4 \times x \times 4} = 18\frac{3}{4}\%$$

111. (D) Average of 9 consecutive no. = n

\therefore Fifth number = n

Tenth number = $n + 5$

Eleventh number = $n + 6$

New average

$$= \frac{9n + n + 5 + n + 6}{11}$$

$$= \frac{11n + 11}{11} = \frac{(n + 1) \times 11}{11} = n + 1$$

112. (B) Let the initial quantity = 100

$$\begin{array}{ccc} \text{Initial quantity} & : & \text{New quantity} \\ 100 & \xrightarrow{-12\%} & 88 \\ \downarrow & & \downarrow \times 7.5 \\ \text{Initial price } \boxed{550} & \xrightarrow{+20\%} & 660 \end{array}$$

$$\therefore \text{Initial price} = \frac{660}{120} \times 100 = 550$$

$$\text{Per article price} = \frac{550}{100} = ₹ 5.50$$

113. (C) Pipe A can fill a tank = 20 minutes

Let the efficiency of pipe A = 100

Then the efficiency of 5 new pipes

$$= 100 \times \frac{20}{100} \times 5 = 100$$

$$M_1 D_1 = M_2 D_2$$

$$20 \times 100 = 100 \times D_2$$

$$D_2 = 20 \text{ min}$$

114. (A) Let the numbers be a and b .

According to the question,

$$ab = 120 \quad \dots(i)$$

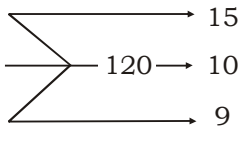
$$\text{and } a^2 + b^2 = 289 \quad \dots(ii)$$

$$\therefore (a + b)^2 = a^2 + b^2 + 2ab$$

$$= 289 + 2 \times 120$$

$$= 289 + 240 = 529$$

$$\therefore a + b = \sqrt{529} = 23$$

115. (A) $A + B + C \rightarrow 8$ 

$$A + B \rightarrow 12 \rightarrow 10$$

$$B + C \rightarrow \frac{40}{3} \rightarrow 9$$

Effi. of A = 6, B = 4, C = 5

$$\text{share of A} = \frac{6}{15} \times 6750 = ₹ 2700$$

$$\text{share of B} = \frac{4}{15} \times 6750 = ₹ 1800$$

$$\text{share of C} = \frac{5}{15} \times 6750 = ₹ 2250$$

116. (C) Let the number be x .

Then,

$$x^2 = (75.15)^2 - (60.12)^2$$

$$= (75.15 + 60.12)(75.15 - 60.12)$$

$$= 135.27 \times 15.03$$

$$= 2033.1081$$

$$\Rightarrow x = \sqrt{2033.1081}$$

$$= 45.09$$

117. (C) Dog : Cat

$$\text{Leap/min } 5 : 4$$

$$\text{Distance/leap } 8 \text{ m} : 5 \text{ m}$$

$$\text{Speed- } 40 \text{ m/min} : 20 \text{ m/min}$$

Relative speed- 20 m/min

Actual distance b/w cat & dog = 50×8

$$= 400 \text{ m}$$

$$\text{time taken by dog} = \frac{400}{20} = 20 \text{ min}$$

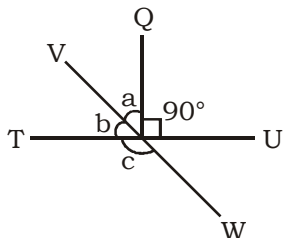
Distance travelled by dog = $20 \times 40 = 800 \text{ m}$

118. (C) After 10% discount

Price of watch = 648

\therefore 2nd discount = $\frac{648 - 550.8}{648} \times 100 = 15\%$

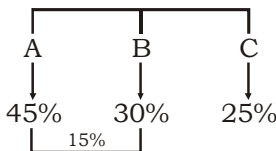
119. (D)



$\angle a = 36^\circ$
 $\angle b = 54^\circ$
 \therefore value of $\angle c = 180^\circ - \angle 54$
 $\angle c = 126^\circ$

120. (B) Teacher's age
 $= 16 \times 10 - 19 \times 4 - 5 \times 10$
 $= 160 - 76 - 50 = 34$ years

121. (B)



\therefore B got $100 - (45 + 25) = 30\%$
 ATQ,
 $15\% \rightarrow 4500$
 \therefore Total voters $\rightarrow 30000$

122. (C) Let the numbers be x, y and z .

Then,
 $x : y = 2 : 3$
 $y : z = 5 : 8$
 $\therefore x : y : z = 2 \times 5 : 3 \times 5 : 3 \times 8$
 $= 10 : 15 : 24$
 Sum of the ratios
 $= 10 + 15 + 24 = 49$
 \therefore The second number

$= \frac{15}{49} \times 98 = 30$

123. (C) Akansha scored 25% = Failed by 60 marks

Vertika scores 50% = Passed by 50 more marks

\therefore It's clear that 25% = 100 marks
 $100\% = 400$ marks
 Pass marks = 160

Required % = $\frac{400 - 160}{160} \times 100 = 150\%$

124. (A) In 400 gm of alloy.

Zinc = $\frac{5}{8} \times 400 = 250$ gm

Copper = $\frac{3}{8} \times 400 = 150$ gm

If x gm of copper be mixed, then

$\frac{250}{150 + x} = \frac{5}{4}$
 $\Rightarrow 750 + 5x = 1000$
 $\Rightarrow 5x = 1000 - 750 = 250$
 $\Rightarrow x = 50$ gm

125. (A) C.S.A of cone = $\pi r l$

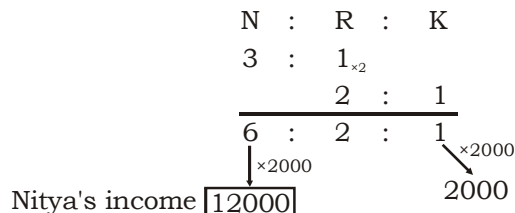
$\therefore \frac{22}{7} \times 16 \times l = \frac{2992}{7}$
 $= 22 \times 16 \times l = 2992$

$= l = \frac{2992}{22 \times 16}$

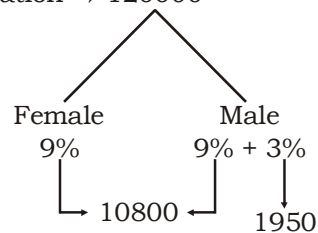
$= 8.5$ m

126. (B) Given $5N = 15R$

$N : R = 3 : 1$
 & $10R = 20K$
 $R : K = 2 : 1$



127. (D) Total population $\rightarrow 120000$



Total population of male = 65000

\therefore No. of females = 67750

\therefore Required Diff. = 2750

128. (C) $AB \parallel CD \parallel PQ$ (Given)

Let $AB = a, PQ = b, CD = c$

$\therefore \frac{1}{b} = \frac{1}{a} + \frac{1}{c}$

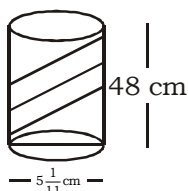
$\Rightarrow \frac{1}{b} = \frac{1}{12} + \frac{1}{18}$

$\Rightarrow \frac{1}{b} = \frac{3+2}{36}$

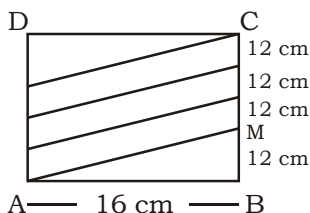
$$\Rightarrow \frac{1}{b} = \frac{5}{36}$$

$$\Rightarrow b = \frac{36}{5} \text{ cm}$$

129. (A)



when we open it



the base circumference

$$= 2\pi r = 2 \times \frac{22}{7} \times \frac{56}{11} \times \frac{1}{2} = 16 \text{ cm}$$

\therefore AM = length of one complete turn

$$= \sqrt{16^2 + 12^2}$$

$$= 20 \text{ cm}$$

$$\therefore \text{total length} = 4 \times 20 = 80 \text{ cm}$$

130. (C) $5 \tan \theta = 4$

$$\tan \theta = \frac{4}{5}$$

$$\therefore \frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta} = \frac{5 \sin \theta - 3 \cos \theta}{\cos \theta} \cdot \frac{\cos \theta}{5 \sin \theta + 3 \cos \theta}$$

$$= \frac{5 \tan \theta - 3}{5 \tan \theta + 3} = \frac{5 \times \frac{4}{5} - 3}{5 \times \frac{4}{5} + 3}$$

$$= \frac{4 - 3}{4 + 3} = \frac{1}{7}$$

131. (D) Given $\frac{P^2 - 4P + 4}{4P} = 8$

$$= \frac{P^2 - 4P + 4}{P} = 32$$

$$= \frac{P^2}{P} - \frac{4P}{P} + \frac{4}{P} = 32$$

$$\Rightarrow P - 4 + \frac{4}{P} = 32$$

$$= P + \frac{4}{P} = 36$$

$$\begin{aligned} 132. \text{ (B) } \cos^2 \alpha + \cos^2 \beta &= 2 \\ &= 1 - \sin^2 \alpha + 1 - \sin^2 \beta = 2 \\ &= \sin^2 \alpha + \sin^2 \beta = 0 \\ &= \sin \alpha = \sin \beta = 0 \\ &= \alpha = \beta = 0 \\ &\therefore \tan^3 \alpha + \sin^5 \beta = 0 \end{aligned}$$

133. (A) Let the length of pipe be h cm, then its

$$\text{volume} = \pi r_1^2 h - \pi r_2^2 h$$

$$= \pi h (r_1^2 - r_2^2) = \pi h (25^2 - 24^2)$$

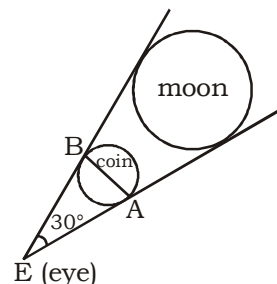
$$= 49\pi h \text{ cu. cm.}$$

$$\therefore \pi r^2 h = 49\pi h$$

$$\therefore r^2 = 49$$

$$\therefore \text{Diameter} = 14 \text{ cm}$$

134. (B)



$$\theta = 30^\circ = \left(\frac{30}{60}\right)^\circ$$

$$= \left(\frac{1}{2}\right)^\circ$$

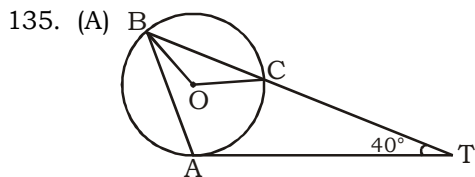
$$= \left(\frac{1}{2} \times \frac{\pi}{180}\right)^\circ = \left(\frac{\pi}{360}\right)^\circ$$

$$\theta = \frac{\text{Arc}}{\text{radius}} = \frac{\pi}{360} = \frac{4.4}{r}$$

$$\Rightarrow r = \frac{4.4 \times 360}{\pi} \text{ cm}$$

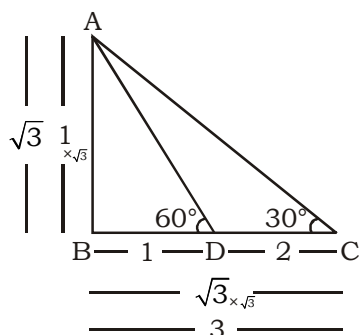
$$= \frac{4.4 \times 360}{22} \times 7$$

$$r = 504 \text{ cm}$$



$$\begin{aligned} \angle CAT &= 44^\circ \\ \angle BTA &= 40^\circ \\ \angle ACT &= 180^\circ - 44^\circ - 40^\circ = 96^\circ \\ \angle CAT &= \angle CBA = 44^\circ \\ \angle BCA &= 180^\circ - 84^\circ - 44^\circ = 52^\circ \\ \therefore \text{Angle on Arc} &= BC = 2 \times 52^\circ = 104^\circ \end{aligned}$$

136. (A) **Short-trick:-**

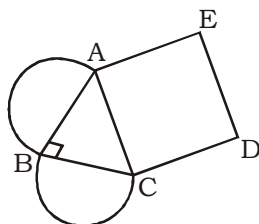


$$\therefore AB = \sqrt{3} = 30 \text{ given}$$

$$\therefore CD = \frac{30}{\sqrt{3}} \times 2$$

$$= 20\sqrt{3}$$

137. (B)



$$\text{Let } AB = BC = x$$

$$\text{then } AC = \sqrt{2}x$$

$$\text{But } AC = \sqrt{128} = 8\sqrt{2} \text{ cm}$$

$$\sqrt{2}x = 8\sqrt{2}$$

$$\Rightarrow x = 8 \text{ cm}$$

Areas of semicircles

$$= \frac{1}{2} \pi \left(\frac{x}{2}\right)^2 + \frac{1}{2} \pi \left(\frac{x}{2}\right)^2$$

$$= \frac{1}{2} \pi (2 \times 16)$$

$$= 16 \pi \text{ cm}^2$$

138. (A) $\therefore x = \frac{1}{y}$

$$\therefore x + \frac{1}{x} = 4$$

ATQ,

$$\frac{x^2 + y^2}{x^3 + y^3} = \frac{x^2 + \frac{1}{x^2}}{x^3 + \frac{1}{x^3}} = \frac{14}{52} = \frac{7}{26}$$

139. (C) $\frac{BE}{AB} = \sin 30^\circ = \frac{1}{2}$

$$\Rightarrow BE = \frac{1}{2} \times AB = 6 \text{ cm} = CF$$

$$\text{and } \frac{CF}{DF} = \tan 45^\circ = 1$$

$$\therefore DF = CF = 6 \text{ cm}$$

$$\therefore AE = \sqrt{12^2 - 6^2} = 6\sqrt{3} \text{ cm}$$

$$AD = 6 + 6 + 6\sqrt{3} = 6(2 + \sqrt{3})$$

Area of trapezium ADCB

$$= \frac{1}{2} \times (AD + BC) \times BE$$

$$= \frac{1}{2} \times [6(2 + \sqrt{3}) + 6] \times 6$$

$$= 3(2 + \sqrt{3} + 1) \times 6 = 18(3 + \sqrt{3}) \text{ cm}^2$$

140. (*) **Read 25 as 2s**

$$\text{Let } a = b = c = 2, \text{ then } 2s = 6$$

$$s = 3$$

$$\begin{aligned} \therefore (s-a)^3 + (s-b)^3 + 3(s-a)(s-b)c \\ = (3-2)^3 + (3-2)^3 + 3(3-2)(3-2) \times 2 \\ = 1 + 1 + 3 \times 2 = 8 \\ = c^3 \end{aligned}$$

141. (D) $\sin 2x = \frac{1}{5} = 1 + \sin 2x = 1 + \frac{1}{5} = \frac{6}{5}$

$$\therefore \sin^2 x + \cos^2 x + 2 \sin x \cdot \cos x = \frac{6}{5}$$

$$= (\sin x + \cos x)^2 = \frac{6}{5}$$

$$= \sin x + \cos x = \sqrt{\frac{6}{5}}$$

142. (D) $\therefore x^3 + y^3 + z^3 - 3xyz$
 $= (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx) \dots(i)$
 $\& (x + y + z)^2 = x^2 + y^2 + z^2 + 2(xy + yz + zx)$

$$\Rightarrow (10)^2 = 30 + 2(xy + yz + zx)$$

$$\Rightarrow 2(xy + yz + zx)$$

$$= 100 - 30 = 70$$

From (i)

$$x^3 + y^3 + z^3 - 3xyz = 10(30 - 35)$$

$$= -50$$

143. (C) Formula:-

$$(B)^3 + 3(B)^2 - (B)^1 + (B)^2$$

$$= B \text{ denotes base} = 2$$

$$= (2)^3 + 3(2)^2 - (2)^1 + (2)^2$$

$$= 8 + 12 - 2 + 4$$

$$= 22 + 26 \text{ given in question}$$

$$= 48$$

144. (A) $\sqrt{8} + 2\sqrt{32} - 3\sqrt{128} + 4\sqrt{50}$

$$= 2\sqrt{2} + 8\sqrt{2} - 3 \times 8\sqrt{2} + 4 \times 5\sqrt{2}$$

$$= 2\sqrt{2} + 8\sqrt{2} - 24\sqrt{2} + 20\sqrt{2}$$

$$= (2 + 8 - 24 + 20)\sqrt{2}$$

$$= 6\sqrt{2} = 6 \times 1.414 = 8.484$$

145. (D) Assume $\theta = 45^\circ$

$$\text{then } 4m = 1 \times \left(1 + \frac{1}{\sqrt{2}}\right)$$

$$m = \frac{\sqrt{2}+1}{4\sqrt{2}} \text{ and } n = \frac{\sqrt{2}-1}{4\sqrt{2}}$$

$$\therefore m^2 - n^2 = \frac{1}{32} [(\sqrt{2} + 1)^2 - (\sqrt{2} - 1)^2]$$

$$= \left[\frac{1}{32}(4\sqrt{2})\right]$$

$$= (m^2 - n^2) = \frac{1}{32}$$

from options-

$$mn = \frac{\sqrt{2}+1}{4\sqrt{2}} \cdot \frac{\sqrt{2}-1}{4\sqrt{2}} = \frac{1}{32}$$

$$\therefore (m^2 - n^2) = mn$$

146. (A) Percentage of money spent on Tennis

$$= \left(\frac{45}{360} \times 100\right)\% = 12\frac{1}{2}\%$$

147. (D) Let the total spendings on sports be ₹ x.
Then,

$$\text{Amount spent on Golf} = ₹ \left(\frac{36}{360} \times x\right)$$

$$= ₹ \frac{x}{10}$$

$$\text{Amount spent on Hockey} = ₹ \left(\frac{63}{360} \times x\right)$$

$$= ₹ \frac{7}{40} x$$

$$\text{Difference} = ₹ \left(\frac{7}{40} x - \frac{x}{10}\right) = ₹ \frac{3x}{40}$$

∴ Required Percentage

$$= \left[\left(\frac{3x/40}{x/10}\right) \times 100\right]\% = 75\%$$

148. (C) Let the total spendings on sports be ₹ x.
Then,

$$\text{Amount spent on Cricket} = ₹ \left(\frac{81}{360} \times x\right)$$

$$= ₹ \left(\frac{9}{40} x\right)$$

$$\text{Amount spent on Football} = ₹ \left(\frac{54}{360} \times x\right)$$

$$= ₹ \left(\frac{3}{20} x\right)$$

$$\text{Difference} = ₹ \left(\frac{9}{40} x - \frac{3}{20} x\right) = ₹ \frac{3}{40} x$$

∴ Required percentage

$$= \left[\left(\frac{3x/40}{9x/40}\right) \times 100\right]\% = 33\frac{1}{3}\%$$

149. (B) Amount spent on Cricket and Hockey together

$$= ₹ \left[\frac{(81+63)}{360} \times 2\right] \text{ crores}$$

$$= ₹ 0.8 \text{ crores}$$

$$= ₹ 80,00,000$$

150. (A) Amount spent on Basketball exceeds that on Tennis by:

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Avouch	affirm or assert	दृढ़तापूर्वक कहना
Cataclysm	a sudden disaster or a violent event that causes change	प्रलय
Catacombs	a series of underground tunnels used for burying dead people, especially in ancient times	कब्रों का तहखाना
Catechism	a set of questions and answers that are used for teaching people about the beliefs of a religion	धार्मिक प्रश्नोत्तरी
Charlatan	a person who claims to have knowledge or skills that they do not really have	ढोंगी, कपटी व्यक्ति
Compere	a person who introduces the people who perform in a television programme, a show in a theatre, etc.	सूत्रधार
Condemned	to express very strong disapproval of somebody/something, usually for moral reasons	निंदा
Convicted	declare (someone) to be guilty of a criminal offense by law	अपराधी
Crave	to have a very strong desire for something	इच्छा करना
Fastidious	not liking things to be dirty or untidy	नकचढ़ा, तुनक मिजाज
Filial	connected with the way children behave towards their parents	पुत्र/पुत्री-संबंधी
Frontier	a line or border separating two countries	सीमा-प्रदेश
Futility	the fact of having no purpose because there is no chance of success	व्यर्थता, निरर्थकता
Glorify	to make something seem better or more important than it really is	गौरवान्वित करना
Holocaust	an act of mass destruction and loss of life (especially in war or by fire)	विध्वंस
Impeccable	without mistakes or faults	त्रुटिहीन
Invasion	the act of an army entering another country by force in order to take control of it	आक्रमण
Judicial	connected with a court, a judge or legal judgement	न्यायिक
Judicious	careful and sensible; showing good judgement	विवेकपूर्ण
Libertine	a person, especially a man, who behaves without moral principles or a sense of responsibility, especially in sexual matters	व्यभिचारी, अनैतिक
Obligation	something which you must do because you have promised, because of a law, etc.	कर्तव्य
Pangs	sudden strong feelings of physical or emotional pain	कष्ट, यातना
Pedagogue	someone who educates young people	शिक्षक
Pitcher	an open vessel with a handle and a spout for pouring.	पात्र, बर्तन
Plagiarist	someone who uses another person's words or ideas as if they were his own	साहित्य की चोरी करने वाला
Prejudice	Preconceived opinion that is not based on reason or actual experience	पक्षपात
Sanity	the state of being sensible and reasonable	विवेक
Seek (v ₃ - sought)	attempt to find (something)	खोजना
Sterile	not producing any useful result	निष्फल
Stringency	the fact of conditions being difficult and very strictly controlled because there is not much money	आर्थिक तंगी
Sycophant	a person who tries to please someone in order to gain a personal advantage	चापलूस
Synagogue	a building where jews meet for religious worship and teaching	यहूदी उपासनागृह
Vital	absolutely necessary or important	महत्वपूर्ण

SSC MOCK TEST - 41 (ANSWER KEY)

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

151. (B) The negative form of simple past tense takes V_1 in it. Hence, replace 'told' by 'tell'.
152. (B) As the sentence is in past form, replace 'is' by 'was'.
153. (C) If the two subjects are joined by 'neither nor', the verb agrees with the nearest subject. Hence, replace 'is' by 'are'.
154. (C) The past form of 'cost' is always the same.
155. (B) Phrase 'look forward to' takes ' $V_1 + ing$ ' after it. Hence, replace 'play' by 'playing'.
174. (C) Though SSC had given option (C) as the answer, it means the same. No improvement is hence the answer.
175. (A) When 'used to' is preceded by a verb, it means 'habitual of'. Here 'used to' is followed by ' $V_1 + ing$ '.
176. (C) 'Everybody' is singular and will take singular verb 'depends'.

177. (C) 'Not only but also' is a correlative.
178. (C) Unique is not used in a comparative or superlative degree.
179. (C) Here affection for son has been expressed hence 'filial' is a better choice.
181. (D) 'Charlatan' and 'Quack' mean the same hence no improvement is a better choice.

Correction Mock Test 39

40. Solution given is correct. Read the correct option as B.

Correction Mock Test 40

38. Given solution is correct read '32' as '40' mentioned in the last line.
42. Read ' $18 - 5 + 3 \times 2 \div 4$ ' as ' $18 - 5 + 3 \times 2 \div 24$ '.
121. Read '9' as 'a' in the question given in hindi medium question.

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