

**SSC HS LEVEL & MTS EXAM RELATED PRACTICE SET**

**Answers with Explanation**

1. (b) **Prediction (Noun)** means a statement that says what you think will happen (in future).

**Regret (Noun)** means a feeling of sadness or disappointment for committing some wrong or sin/not doing something which has to be done.

2. (c) **Adversary** means a person that somebody is opposed to and competing with in an argument or a battle; opponent.

**Enemy** means a person who hates somebody or who acts or speaks against somebody/something.

**Adversity** means a difficult or unpleasant situation.

**Difficulty** means a problem, a thing or situation that causes problems.

3. (c) Worm is the prey of Bird. Similarly, Mouse is the prey of Cat.

4. (d) Cytology is that branch of Biology which deals with cells and their functions. Similarly, Ornithology is the scientific study of birds.

5. (c) Both bird and aeroplane fly in the air. Similarly, fish and boat swim/move in the water.

6. (a) Z is the wife of P.  
P is the son of A.  
Therefore, Z is the daughter-in-law of A.

7. (a) O is the husband of P.  
M is the son of O and P.

8. (b) Only daughter of woman's mother means the woman herself. Therefore, the woman is wife of that man.

9. (b)

$+\Rightarrow\div$	$\div\Rightarrow-$
$-\Rightarrow\times$	$\times\Rightarrow+$

$$8 + 2 \div 3 - 4 \times 6 = ?$$

$$\Rightarrow ? = 8 \div 2 - 3 \times 4 + 6$$

$$\Rightarrow ? = 4 - 12 + 6 = -2$$

10. (c)

$-\Rightarrow+$	$+\Rightarrow\times$
$\times\Rightarrow-$	

**Option (a)**

$$22 + 7 - 3 \times 9 = 148$$

$$\Rightarrow 22 \times 7 + 3 - 9 = 148$$

$$\Rightarrow 154 + 3 - 9 = 148$$

**Option (b)**

$$33 \times 5 - 10 + 20 = 228$$

$$\Rightarrow 33 - 5 + 10 \times 20 = 228$$

$$\Rightarrow 33 - 5 + 200 = 228$$

$$\Rightarrow 233 - 5 = 228$$

**Option (c)**

$$7 \times 28 - 3 \times 52 = 127$$

$$\Rightarrow 7 \times 28 + 3 - 52 = 127$$

$$\Rightarrow 196 + 3 - 52 = 127$$

$$\Rightarrow 199 - 52 \neq 127$$

**Option (d)**

$$44 - 9 + 6 \times 11 = 87$$

$$\Rightarrow 44 + 9 \times 6 - 11 = 87$$

$$\Rightarrow 44 + 54 - 11 = 87$$

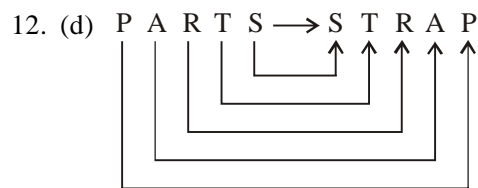
$$\Rightarrow 98 - 11 = 87$$

11. (a)  $b \text{ af} \div bf \times d$

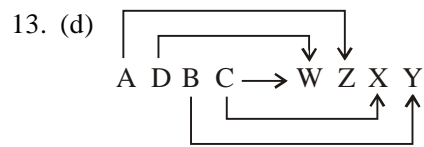
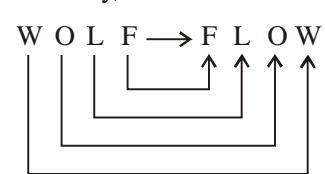
$$\Rightarrow 105 \div 15 \times 3$$

$$\Rightarrow 7 \times 3 = 21$$

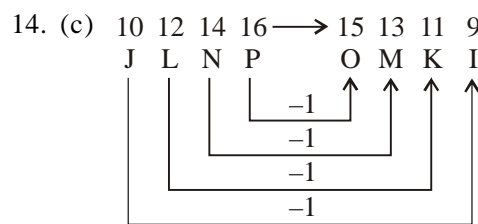
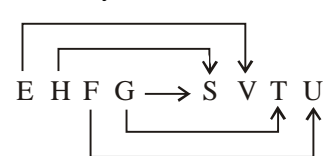
$$\Rightarrow \text{cb}$$



Similarly,



Pair of opposite letters.  
Similarly,



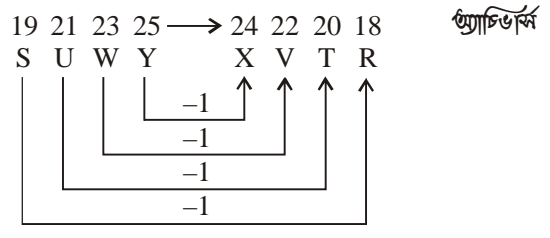
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Similarly,



15. (d) There is no 'G' letter in the given word. Therefore, the word CHANGE cannot be formed.

M E R C H A N D I S E  
 ⇒ M E S H

M E R C H A N D I S E  
 ⇒ D I C E

M E R C H A N D I S E  
 ⇒ C H A R M

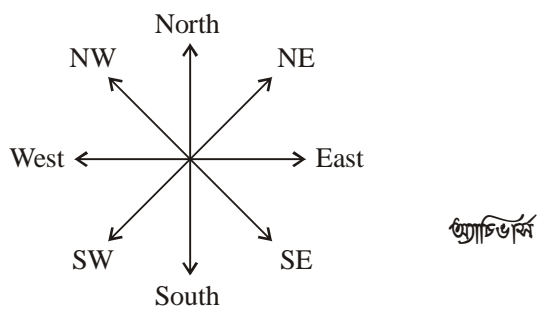
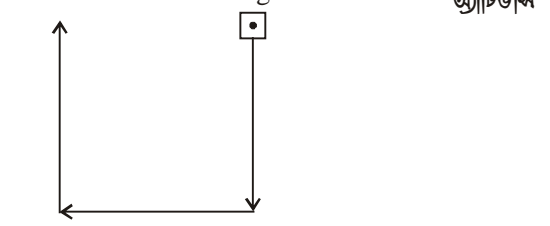
16. (a) There are only one A and T in the given word. Therefore, the word MATHEMATICS cannot be formed.

T H E R M O D Y N A M I C S

T H E R M O D Y N A M I C S

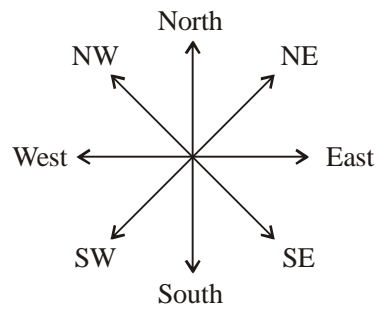
T H E R M O D Y N A M I C S

17. (a) Starting Point

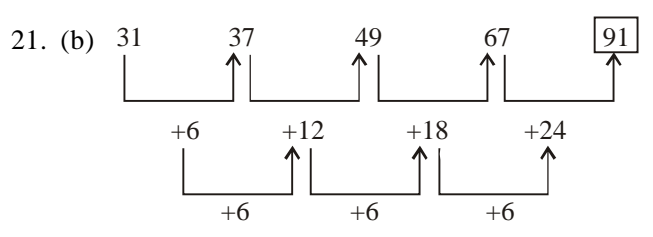
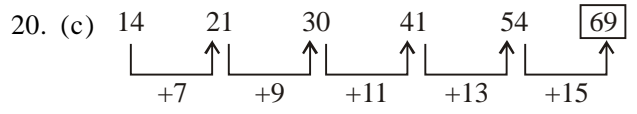


It is clear from the diagram that finally P was going towards North.

18. (a) প্র্যাচিভর্ষ



19. (d) Today is Monday.  
 Yesterday was Sunday.  
 Sunday - 3 = Thursday.



22. (b) Q A J Y N R  
 ↓ ↓ ↓ ↓ ↓ ↓  
 0 6 4 1 7 3

23. (c) Both the Premises are Universal Affirmative (A-type).  
 All men are women.

All women are crazy.  
 A + A ⇒ A - type of Conclusion  
 "All men are crazy".  
 This is Conclusion I.  
 Conclusion III is the Converse of it.  
 Conclusion IV is the Converse of Statement Q.

24. (b) First Figure  
 $(3)^3 + (2)^3$   
 $= 27 + 8 = 35$

Second Figure

$$(1)^3 + (5)^3 \\ = 1 + 125 = 126$$

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Third Figure

$$(3)^3 + (4)^3 \\ = 27 + 64 = 91$$

25. (b) **First Figure**

$$(6 \times 7) + (8 + 4) = 42 + 12 = 54$$

**Second Figure**

$$(8 \times 4) + (12 + 7) = 32 + 19 = 51$$

**Third Figure**

$$(9 \times 5) + (14 + 9) = 45 + 23 = 68$$

26. (c) Dhanwantari is an Avatar of Vishnu from the Hindu tradition. He appears in the Vedas and Puranas as the physician of the gods (devas), and the god of Ayurvedic medicine. It is common practice in Hinduism for worshipers to pray to Dhanvantri seeking his blessings for sound health for themselves and/or others. Dhanvantri is depicted as Vishnu with four hands, holding medical herbs in one hand and a pot containing rejuvenating nectar called amrita in another. The Puranas state that Dhanvantri emerged from the 'Ocean of Milk' and appeared with the pot of nectar during the story of the Samudra or Sagar manthan whilst the ocean was being churned by the devas and asuras, using the Mandara mountain and the serpent Vasuki.

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27. (c) Madhubani painting or Mithila painting is a style of Indian painting, practiced in the Mithila region of Bihar state, India and the adjoining parts of Terai in Nepal. Painting is done with fingers, twigs, brushes, nib-pens, and matchsticks, using natural dyes and pigments, and is characterized by eye-catching geometrical patterns. There are paintings for each occasion and festival such as birth, marriage, holi, surya shasti, kali puja, Upanayanam (sacred thread ceremony), and durga puja.

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28. (b) Dr. Sachchidananda Sinha was the first president (temporary chairman) of the Constituent Assembly when it met on December 9, 1946. Dr. Rajendra Prasad then became the President of the Constituent Assembly, and would later become the first President of India.

29. (d) The corona is the outermost layer of the Sun, starting at about 1300 miles (2100 km) above the solar surface (the photosphere). The

temperature in the corona is 500,000 K (900,000 degrees F, 500,000 degrees C) or more, up to a few million K. The corona cannot be seen with the naked eye except during a total solar eclipse. The corona does not have an upper limit.

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30. (b) The first portable solar rooftop system in India has been inaugurated at Swaminarayan Akshardham temple complex in Gandhinagar, in Gujarat.

31. (d) Statutory Liquidity Ratio refers to the amount that the commercial banks require to maintain in the form gold or government approved securities before providing credit to the customers. Here by approved securities we mean, bond and shares of different companies. Statutory Liquidity Ratio is determined and maintained by the Reserve Bank of India in order to control the expansion of bank credit. Statutory liquidity ratio is the amount of liquid assets such as precious metals (Gold) or other approved securities, that a financial institution must maintain as reserves other than the cash. In a growing economy banks would like to invest in stock market, not in Government Securities or Gold as the latter would yield less returns. One more reason is long term Government Securities (or any bond) are sensitive to interest rate changes. But in an emerging economy interest rate change is a common activity.

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32. (a) Chandra Gupta II was the third, and most significant of the Gupta kings. During his reign the famous Chinese pilgrim Fa-Hsien visited India and wrote a detailed account of his kingdom. The celebrated Chinese pilgrim was struck with admiration by the famous royal palace and the houses for dispensing charity and medicine at Pataliputra. He speaks highly of the system of government in the Madhyadesa and the benevolence of the people, especially the moneyed classes.

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33. (b) A parliamentary system is a system of democratic governance of a state in which the executive branch derives its democratic legitimacy from, and is held accountable to, the legislature (parliament). The executive and legislative branches are thus interconnected.

34. (a) The Great Barrier Reef is in the Coral Sea, on Australia's north-eastern coast. It stretches more than 2,300km along the state of

- Queensland's coastline, beginning at the tip of Cape York Peninsula in the north and extending down to Bundaberg in the south. The Great Barrier Reef is ideal for Cairns Scuba Diving.
35. (c) The scenes depicted in the Ajanta paintings are mostly didactic, devotional, and ornamental, with scenes from the Jataka stories of the Buddha's former existences as a bodhisattva), the life of the Gautama Buddha, and those of his veneration. The two most famous individual painted images at Ajanta are the two over-life size figures of the protective bodhisattvas Padmapani and Vajrapani on either side of the entrance to the Buddha shrine on the wall of the rear aisle. প্র্যাচিভর্ষ
36. (c) Noted lawyer and writer Rajesh Talwar has come out with a new children's book titled "The Boy Who Wrote a Constitution".
37. (c) Mist is a phenomenon caused by small droplets of water suspended in air. It can occur as part of natural weather or volcanic activity, and is common in cold air above warmer water, in exhaled air in the cold, and in a steam room of a sauna. It can also be created artificially with aerosol canisters if the humidity conditions are right. The only difference between mist and fog is visibility. Mist usually occurs near the shores, and is often associated with fog. Mist can be as high as mountain tops when extreme temperatures are low. Freezing mist is similar to freezing fog, only the density is less and the visibility greater.
38. (c) The Directive Principles of State Policy are guidelines to the central and state governments of India, to be kept in mind while framing laws and policies. These provisions, contained in Part IV of the Constitution of India.
39. (d) Sultan Qutb-ud-din Aibak also called "Lakh Baksh Sultan" (the donator of hundreds of thousands) was the first Muslim Emperor of India who ruled from his capital in Delhi where he built Qutb Minar and the Quwwat Al Islam mosque. He was of Turkic descent from central Asia, Turkic ruler, the first Sultan of Delhi and founder of the Slave dynasty (also known as the Ghulam dynasty) of India. He ruled as an emperor for only four years, from 1206 to 1210 but because of his super efficient administration and farsighted vision, his name has become inseparable from the history of South Asia. প্র্যাচিভর্ষ
40. (c) Doab is a term used in India and Pakistan for a "tongue" or tract of land lying between two confluent rivers. Unqualified by the names of any rivers, it designates the flat alluvial tract between the Ganges and Yamuna rivers in western and southwestern Uttar Pradesh and Uttarakhand state in India, extending from the Sivalik Hills to the two rivers' confluence at Allahabad. প্র্যাচিভর্ষ
41. (c) Aspirin (USAN), also known as acetyl Salicylic acid., is a salicylate drug, often used as an analgesic to relieve minor aches and pains, as an antipyretic to reduce fever, and as an anti-inflammatory medication. Aspirin was first isolated by Felix Hoffmann, a chemist with the German company Bayer in 1897. Salicylic acid, the main metabolite of aspirin, is an integral part of human and animal metabolism. While in humans much of it is attributable to diet, a substantial part is synthesized endogenously. প্র্যাচিভর্ষ
42. (d) Adam Smith is best known for two classic works: The Theory of Moral Sentiments (1759), and An Inquiry into the Nature and Causes of the Wealth of Nations (1776). The latter, usually abbreviated as The Wealth of Nations, is considered his magnum opus and the first modern work of economics. Smith is cited as the father of modern economics and is still among the most influential thinkers in the field of economics today. প্র্যাচিভর্ষ
43. (c) Young Indian Chess Grandmaster D. Gukesh has emerged as the winner of the 48th La Roda International Open chess tournament, held in Castile-La Mancha, in Spain.
44. (d) Lactic acid, also known as milk acid, is a chemical compound that plays a role in various biochemical processes and was first isolated in 1780 by the Swedish chemist Carl Wilhelm Scheele. Lactic acid is a carboxylic acid with the chemical formula  $C_3H_6O_3$ . Lactic acid is found primarily in sour milk products, such as koumiss, laban, yogurt, kefir, and some cottage cheeses. The casein in fermented milk is coagulated (curdled) by lactic acid. Lactic acid is also responsible for the sour flavor of sour dough breads. This acid is used in beer brewing to lower the wort pH in order to reduce some undesirable substances such as tannins without giving off-flavors such as citric acid and increase the body of the beer.

45. (a) Badruddin Tyabji was the first Muslim President of Indian National Congress. He presided over the third session of Indian National Congress held in 1887 in Madras.
46. (c) Amir Khusro was an Indian musician, scholar and poet. He was an iconic figure in the cultural history of the Indian subcontinent. A Sufi mystic and a spiritual disciple of Nizamuddin Auliya of Delhi, Amir Khusro was not only a notable poet but also a prolific and seminal musician. Amir Khusro is credited with fashioning the tabla as a split version of the traditional Indian drum, the pakhawaj. Popular lore also credits him with inventing the sitar, the Indian grand lute, but it is possible that the Khusro associated with the sitar was Khusrau Khan, who lived in the 18th century (he is said to be a descendant of the son-in-law of Tansen, the celebrated classical singer in the court of the Mughal Emperor Akbar)
47. (d) The body keeps its core temperature constant at about 37 C by physiological adjustments controlled by the hypothalamus (Thermostat Center) where there are neurons sensitive to changes in skin and blood temperatures. The temperature-regulating centers are found in the Preoptic Area (the anterior portion of the hypothalamus). This area receives input from temperature receptors in the skin and mucous membranes (Peripheral Thermoreceptors) and from internal structures (Central Thermoreceptors), which include the hypothalamus itself. The temperature sensory signals from the preoptic area and those from the periphery are combined in the posterior hypothalamus to control the heat producing and conserving reactions of the body. The hypothalamic thermostat works in conjunction with other hypothalamic, autonomic and higher nervous thermoregulatory centers to keep the core temperature constant. অ্যাচিভার্স
48. (b) In India, the 'Civil Services Day' is celebrated on April 21 every year as a thanks giving day to all the Civil Servants for their service to the society and also for Civil Servants to 'rededicate themselves to the cause of citizen and renew their commitments to public service'. অ্যাচিভার্স
49. (a) Chilka lake is located in Odisha. It is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha on the east coast of India, at the mouth of the Daya River, flowing in to the Bay of Bengal, covering an area of over 1,100 sq.km. অ্যাচিভার্স
50. (b) Zero Hour in Parliament starts at 12 noon during which members raise matters of importance, especially those that cannot be delayed. Zero Hour is the Indian innovation in the field of parliamentary procedures and has been in existence since 1962. However, it does not find mention in the rules of procedure. During zero hour, questions are asked about issues of public importance without prior permission. These questions are usually directed against individual ministers.
51. (b) The smallest number of 5 digits = 10000  
Remainder on dividing 10000 by 123 = 37  
 $\therefore$  Required number  
= 10000 + (123 - 37) = 10086 অ্যাচিভার্স
52. (b) Remainder = 4  
 $\Rightarrow$  Divisor =  $3 \times 4 = 12$   
Again, divisor =  $4 \times$  quotient  
 $\Rightarrow 4 \times$  quotient = 12  
 $\Rightarrow$  Quotient =  $\frac{12}{4} = 3$   
 $\Rightarrow$  Dividend =  $3 \times 12 + 4 = 40$
53. (b) Let the number be x.  
According to the question,  
 $x = \frac{x}{5} + 20 \Rightarrow x - \frac{x}{5} = 20$   
 $\Rightarrow \frac{4x}{5} = 20$   
 $\Rightarrow x = \frac{20 \times 5}{4} = 25$
54. (a) Second number =  $\frac{\text{HCF} \times \text{LCM}}{\text{First number}}$  অ্যাচিভার্স  
=  $\frac{18 \times 378}{54} = 126$
55. (c) Here, Divisor - remainder = 1  
e.g.,  $10 - 9 = 1, 9 - 8 = 1, 8 - 7 = 1$   
 $\therefore$  Required number  
= (L.C.M. of 10, 9, 8) - 1  
=  $360 - 1 = 359$
56. (a) Expression  
=  $4 - \frac{5}{1 + \frac{1}{3 + \frac{1}{8+1}}}$  অ্যাচিভার্স  
=  $4 - \frac{5}{1 + \frac{1}{3 + \frac{1}{9}}}$

$$= 4 - \frac{5}{1 + \frac{1}{3 + \frac{4}{9}}} = 4 - \frac{5}{1 + \frac{1}{\frac{27+4}{9}}}$$

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$$= 4 - \frac{5}{1 + \frac{9}{31}} = 4 - \frac{5}{\frac{31+9}{31}}$$

$$= 4 - \frac{5 \times 31}{40} = \frac{160 - 155}{40} = \frac{5}{40} = \frac{1}{8}$$

57. (a)  $? = 5 - [4 - \{3 - (3 - 3 - 6)\}]$   
 $= 5 - [4 - \{3 - (-6)\}]$   
 $= 5 - [4 - \{3 + 6\}]$   
 $= 5 - [4 - 9]$   
 $= 5 + 5 = 10$

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58. (b)  $= 1 \div [1 + 1 \div \{1 + 1 \div (1 + 1 \div 2)\}]$   
 $= 1 \div [1 + 1 \div \{1 + 1 \div (1 + \frac{1}{2})\}]$

$$= 1 \div [1 + 1 \div \{1 + 1 \div \frac{3}{2}\}]$$

$$= 1 \div [1 + 1 \div \{1 + \frac{2}{3}\}] = 1 \div [1 + 1 \div \frac{5}{3}]$$

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$$= 1 \div [1 + \frac{3}{5}] = 1 \div \frac{8}{5} = \frac{5}{8}$$

59. (a) If the average of remaining numbers be x, then  
 $20 \times 15 = 5 \times 12 + 15x$   
 $\Rightarrow 300 = 60 + 15x$   
 $\Rightarrow 15x = 300 - 60 = 240$   
 $\Rightarrow x = \frac{240}{15} = 16$

60. (c) Weight of B = (A + B)'s weight + (B + C)'s weight - (A + B + C)'s weight  
 $= 40 \times 2 + 43 \times 2 - 45 \times 3$   
 $= 80 + 86 - 135$   
 $= 166 - 135 = 31 \text{ kg.}$

61. (c)  $a : b = c : d$   
 $\Rightarrow \frac{a}{b} = \frac{c}{d} = \frac{ma}{mb} = \frac{nc}{nd}$   
 $\Rightarrow \frac{a+c}{b+d} = \frac{ma+nc}{mb+nd}$

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62. (c)  $A : B = 2 : 3$   
 $B : C = 6 : 11$   
 $\therefore A : B : C = (2 \times 6) : (3 \times 6) : (3 \times 11)$   
 $= 12 : 18 : 33$   
 $= 4 : 6 : 11$

63. (d)  $A \times \frac{30}{100} + \frac{B \times 40}{100} = \frac{B \times 80}{100}$

$$\Rightarrow A \times 30 = B \times 40$$

$$\Rightarrow \frac{A}{B} = \frac{40}{30} = \frac{4}{3}$$

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$$\Rightarrow \frac{B}{A} = \frac{3}{4}$$

$$\Rightarrow \frac{B}{A} \times 100 = \frac{3}{4} \times 100 = 75\%$$

64. (b)  $\frac{P-Q}{2} = (P+Q) \times \frac{30}{100}$   
 $\Rightarrow 5(P-Q) = (P+Q) \times 3$   
 $\Rightarrow 5P - 3P = 5Q + 3Q$   
 $\Rightarrow 2P = 8Q$

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$$\Rightarrow P = 4Q = 4 \times \frac{P \times x}{100}$$

$$\Rightarrow \frac{4x}{100} = 1 \Rightarrow x = 25$$

65. (b)  $\sqrt{1 - \frac{x^3}{100}} = \frac{3}{5}$

Squaring both sides,

$$1 - \frac{x^3}{100} = \frac{9}{25}$$

$$\Rightarrow \frac{x^3}{100} = 1 - \frac{9}{25} = \frac{25-9}{25} = \frac{16}{25}$$

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$$\Rightarrow x^3 = \frac{16}{25} \times 100 = 64$$

$$\therefore x = \sqrt[3]{64} = \sqrt[3]{4 \times 4 \times 4} = 4$$

66. (a) Third proportional of a and b =  $\frac{b^2}{a}$

$$= \frac{(\sqrt{x^2 + y^2})^2}{\frac{x}{y} + \frac{y}{x}} = \frac{x^2 + y^2}{\frac{x^2 + y^2}{xy}} = xy$$

67. (d)  $\sec \theta + \tan \theta = 5$   
 $\therefore \sec^2 \theta - \tan^2 \theta = 1$   
 $\Rightarrow (\sec \theta - \tan \theta) (\sec \theta + \tan \theta) = 1$   
 $\Rightarrow \sec \theta - \tan \theta = \frac{1}{5}$

$$\therefore (\sec \theta + \tan \theta) - (\sec \theta - \tan \theta)$$

$$= 5 - \frac{1}{5} = \frac{25-1}{5}$$

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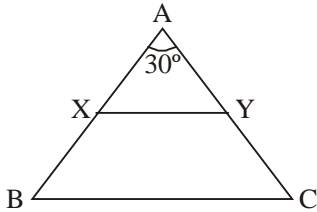
$$\Rightarrow 2 \tan \theta = \frac{24}{5} \Rightarrow \tan \theta = \frac{12}{5}$$

$$\therefore \frac{\tan \theta + 1}{\tan \theta - 1} = \frac{\frac{12}{5} + 1}{\frac{12}{5} - 1} = \frac{12+5}{12-5} = \frac{17}{7}$$

68. (b)  $\cos \theta = \frac{3}{5}$   
 $\therefore \sec \theta = \frac{5}{3}$   
 $\therefore \tan \theta = \sqrt{\sec^2 \theta - 1}$   
 $= \sqrt{\left(\frac{5}{3}\right)^2 - 1}$   
 $= \sqrt{\frac{25}{9} - 1} = \sqrt{\frac{25-9}{9}} = \sqrt{\frac{16}{9}} = \frac{4}{3}$   
 $\therefore \sin \theta \cdot \sec \theta \cdot \tan \theta = \frac{\sin \theta}{\cos \theta} \cdot \tan \theta$   
 $= \tan^2 \theta = \left(\frac{4}{3}\right)^2 = \frac{16}{9}$

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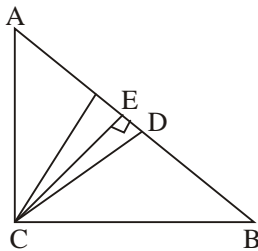
69. (d)



$\Delta ABC$  is an isosceles triangle.  
 $\therefore \angle ABC = \angle ACB$   
 $= \frac{180^\circ - 30^\circ}{2} = 75^\circ$   
 $XY \parallel BC$   
 $\therefore \angle AXY = \angle ABC = 75^\circ$   
 $\therefore \angle BXY = 180^\circ - 75^\circ = 105^\circ$

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70. (b)



$AC^2 + CB^2 = AB^2$   
 $\Rightarrow 2BC^2 = (AD + DB)^2$   
 $\Rightarrow 2BC^2$   
 $= AD^2 + DB^2 + 2AD \cdot BD \dots (i)$   
 $\Delta CEB$  and  $\Delta CED$  are right angles.  
 $CD^2 = CE^2 + ED^2$   
 and,  $BC^2 = CE^2 + BE^2$   
 $BC^2 - CD^2 = BE^2 - DE^2$   
 $= (BE + DE)(BE - DE)$   
 $= (AE + DE)(BE - DE)$   
 $= AD \cdot BD \dots (ii)$   
 $\therefore$  From equations (i) and (ii)

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71. (c)  $AD^2 + DB^2 = 2CD^2$   
 Perimeter of rhombus

$= 2\sqrt{d_1^2 + d_2^2}$

Where  $d_1$  and  $d_2$  are diagonals.

$\therefore 2\sqrt{d_1^2 + d_2^2} = 100$

$\Rightarrow \sqrt{d_1^2 + d_2^2} = 50$

$\Rightarrow d_1^2 + d_2^2 = 2500$

$\Rightarrow (14)^2 + d_2^2 = 2500$

$\Rightarrow d_2^2 = 2500 - 196 = 2304$

$\therefore d_2 = \sqrt{2304} = 48$

$\therefore$  Area of the rhombus

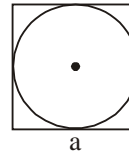
$= \frac{1}{2} d_1 \times d_2$

$= \frac{1}{2} \times 14 \times 48 = 336 \text{ sq.cm.}$

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72. (d)



The diameter of the largest circle inscribed inside a square is equal to its side.  
 $\therefore d = a = 28 \text{cm.}$

Area of the circle  $= \frac{\pi d^2}{4}$

$= \frac{1}{4} \times \frac{22}{7} \times (28)^2 \text{ cm}^2$

$= 22 \times 28 \text{ cm}^2 = 616 \text{ cm}^2$

73. (b)  $2p + \frac{1}{p} = 4$

$\Rightarrow p + \frac{1}{2p} = 2$

$\therefore \left(p + \frac{1}{2p}\right)^3$

$= p^3 + \frac{1}{8p^3} + 3 \cdot p \cdot \frac{1}{2p} \left(p + \frac{1}{2p}\right)$

$\Rightarrow 8 = p^3 + \frac{1}{8p^3} + \frac{3}{2} \times 2$

$\Rightarrow p^3 + \frac{1}{8p^3} = 8 - 3 = 5$

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74. (b)  $x + \frac{1}{x} = 2$

$\Rightarrow x^2 + 1 = 2x \Rightarrow x^2 - 2x + 1 = 0$

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$\Rightarrow (x - 1)^2 = 0$

$\Rightarrow x = 1$

$\therefore x^2 + \frac{1}{x^3} = 1 + 1 = 2$

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75. (b)  $3x + \frac{1}{2x} = 5$

On multiplying both sides by  $\frac{2}{3}$ .

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

Cubing both sides,

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

$\Rightarrow 8x^3 + \frac{1}{27x^3} + 2 \times \frac{10}{3} = \frac{1000}{27}$

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

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

76. (b) **appeal (V.)** : a formal request to a court or to somebody in authority for a judgement or a decision to be changed.

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**appealed** will replace **enquired**.

Hence, **appealed for** is the right usage

77. (b) an earthquake is **felt** and not **heard**.

Hence, **felt the earthquake** is the right usage

78. (d) **No error**.

79. (c) **much (Det; Pro.)** : used with **Uncountable Nouns, Questions and Negative Sentences**. Here, **much** is the right usage.

80. (d) Here, **far** is the right usage.

81. (b) **whose (Det. Pro.)** : used for showing which person or thing you are talking about  
Here, **whose** is the right usage.

82. (c) **root out (Phr. V.)** : to find out the thing that is causing a problem and remove or get rid of it.  
Here, **rooted** is the right usage.

83. (a) Here, **of (Prep.)** is the right usage.

84. (c) mad

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**insane (Adjective)** : seriously, mentally ill and unable to live in normal society.

85. (d) dais

**podium (Noun)** : pedestal; a small platform that person stands on while giving a speech etc; rostrum.

86. (b) charm

**charisma (Noun)** : the powerful quality that some people have to attract and impress other people.

87. (b) **a bolt from the blue** : a complete surprise

• She seemed to be very involved in her job, so her resignation came as a **bolt from the blue**.  
The best option is **unexpected**.

88. (c) **sailing in the same boat** : to be same difficult situation

• Everyone's got too much work; we're all sailing in the same boat.  
The best option is **being in the same difficult situation**.

89. (a) **gift of the gab** : the ability to speak easily and to persuade other people with your words

• My brother really has the **gift of gab**. He can convince anyone of anything.  
The best option is **ability to speak well**.

90. (b) **to keep the wolf from the door** : to have enough money to avoid going hungry; to stop somebody feeling hungry.

• I don't make alot of money; it is just enough **to keep the wolf from the door**.  
The best option is **escape starvation**.

91. (c) fresh

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**rancid (Adjective)** : unpleasant taste; stale; not fresh; sour.

If a food containing fat is **rancid**, it tastes/smells unpleasant because it is no longer fresh.

92. (a) **always (Adverb)** : at all time; on every occasion

**seldom (Adverb)** : not often; rarely

93. (d) **deny (Verb)** : to refuse to admit or accept something.

**provide (Verb)** : supply; to give something to somebody or make it available; stipulate

**defy (V.)** : to refuse to obey/show respect for somebody in authority, a law, a rule, etc.

94. (d) **ornithologist**

**ornithologist (N.)** : a person who studies birds  
**orthopaedic (N.)** : the doctor concerned with injuries and diseases of the bones/muscles.

**indispensable (N.)** : a dentist who treats problems concerning the position of the teeth and jaws.

95. (a) **versatile**

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**versatile (Adj.)** : able to do many different things

**projectile (Adj.)** : very fast and with a lot of force.

**cyclostyle (Adj.)** : print with a cyclostyle - a writing implement with a small toothed wheel that cuts small holes in a stencil.

**anglophile (N.)** : a person who is not British but who likes Britain things very much.

96. (a) **sale (Noun)**

97. (d) **approved (Adj.)**

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98. (a) **bid (Verb)**

99. (b) **highest (Adj.)**

100.(a) **bangs (Verb)**