

SNAP Mock Test Paper -3

Time: 60 minutes|**Max. Marks:** 60| **Negative Marking:** 0.25 Marks per wrong answer

SECTION - I: GENERAL ENGLISH

DIRECTION (Q.1): For the word given in CAPITALS at the top of following table, match the dictionary definitions on the left (A, B, C, D) with their corresponding usage on the right (E, F, G, H). Out of the four possibilities given below the table, select the one that has all the definitions and their usage correctly matched:

1. DRUM:

Meaning	Usage
A. A percussion instrument	E. The musician was testing the drum before the show began.
B. To beat a drum	F. He had drummed it into her that the event was the chance of a lifetime for her.
C. To sound rhythmically	G. The musicians were asked to drum to a faster beat.
D. To drive or force by steady effort	H. The girl was drumming her fingers on the table nervously.

(a) A:G, B:H, C:E, D:F

(b) A:E, B:F, C:H, D:G

(c) A:E, B:G, C:F, D:H

(d) A:E, B:G, C:H, D:F

DIRECTION (Q.2): In this question, a sentence has been given in Active voice. Out of the four alternatives suggested select the one which best expresses the same sentence in Passive voice.

2. Do you imitate others?

- (a) Are others imitated by you?
- (b) Are others being imitated by you?
- (c) Were others being imitated by you?
- (d) Have others been imitated by you?

DIRECTIONS (Qs. 3-4): In each of these questions, a sentence has one blank, each blank indicating that something has been omitted. Beneath the sentence are given four words. Choose the word or the set of words for each blank that best fits the meaning of the sentence as a whole.

3. You may wonder how the expert on fossil remains is able to trace descent through teeth, which seem _____ pegs upon which to hang whole ancestries.

- (a) reliable
- (b) inadequate
- (c) novel
- (d) specious

4. The columnist was very gentle when he mentioned his friends, but he was bitter and even _____ when he discussed people who irritated him.

- (a) acerbic
- (b) remorseful
- (c) stoical
- (d) laconic

DIRECTION (Qs. 5-6): From the alternative provided, choose the one that best fills the blank:

5. The weather in the far north is not _____ it is down south.

- (a) like humid as
- (b) as humid as
- (c) humid as
- (d) so humid that

6. How is life enhanced? A beautiful passage from Tagore comes _____ mind?

- (a) in
- (b) to

- (c) from
- (d) out

DIRECTIONS (Qs. 7-8): In each of these questions a disarranged sentence is given in which words or phrases are lettered P, Q, R and S. You are to arrange these to form a meaningful sentence.

7.

P: checked regularly

Q: you should have

R: blood pressure

S: your

- (a) RPSQ
- (b) RSQP
- (c) RQPS
- (d) QPSR

8. In this question, the sentences P, Q, R, S and T, when properly sequenced, form a coherent paragraph. Choose the most logical order of the sentences from amongst the four given choices so as to form a coherent paragraph.

P: In a number of cases, the drivers have refused to carry passengers according to the meter-reading despite it being in working condition.

Q: For instance, according to a complaint, the driver of an auto rickshaw not only misbehaved but also ran away with Rs. 500 from Dhaura Kuan on October 13.

R: Refusal to carry commuters to their respective destinations is another common complaint which has been lodged with the call centres.

S: What have been the most shocking are the complaints about misbehaviour by the rickshaw drivers with the passengers.

T: Similarly, another driver ran away with the luggage of the passenger on the Karol Bagh-Paschim Vihar route.

- (a) SPRQT
- (b) SRQPT
- (c) PRSQT
- (d) PQRST

DIRECTIONS (Q.9): In the question, in the given sentence, a part of the sentence is underlined. Beneath each sentence, four different ways of phrasing the underlined part are indicated. Choose the best alternative.

9. The political masters of the health care system have not listened to professional health planners because it has not been profitable for them to do that thing.

- (a) has not been profitable for them to do so.
- (b) has not been profitable for them to do that thing.
- (c) has been unprofitable for them to do that thing.
- (d) has been unprofitable for them to do so.

DIRECTIONS (Q.10): In each of the following questions, a word is given for which a usage is provided. Out of the given alternatives, choose the one which best expresses the meaning of the given word.

10. PERSPICUOUS: A perspicuous argument is far more effective than mere rhetoric when it comes to achieving a solution.

- (a) synthetic
- (b) Lucid
- (c) ineffective
- (d) obscure

DIRECTIONS (Q.11): This question has four words marked A, B, C and D; of which two words are most nearly SAME or OPPOSITE in meaning. Choose one such pair from the given alternatives.

11. A. Concentration B. Dissociation C. Deliberation D. Distraction

- (a) B-C
- (b) A-D
- (c) A-C
- (d) C-D

DIRECTIONS (Qs. 12-13): In each of these questions, one sentence has been split into four parts. There is an error in one part. Identify the part having the error:

12.

- (a) A skilful advertiser may be able to create
- (b) Practically a monopoly for himself
- (c) Not because his product is superior to,
- (d) but because he has succeeded in inducing people to believe that it is.

13.

- (a) Whatever may be the origin of speech
- (b) to feel the need to speak
- (c) we can be certain that man did not begin

(d) until he began to live in communities.

DIRECTIONS (Qs. 14-15): This question has four items. Select the item that does not belong to the group.

14.

- (a) reprehend
- (b) censure
- (c) sprawl
- (d) chide

15. Choose the correct spelling of the given words.

- (a) Hetrogenous
- (b) Hetrogeneous
- (c) Heterogeneous
- (d) Heterogenous

SECTION - II: QUANTITATIVE AND DATA INTERPRETATION & SUFFICIENCY

16. What fraction is that whose numerator being doubled and denominator increased by 7, the value becomes $\frac{2}{3}$; but when the denominator being doubled, and the numerator increased by 2, the value becomes $\frac{3}{5}$?

- (a) $\frac{3}{5}$
- (b) $\frac{4}{5}$
- (c) $\frac{5}{7}$
- (d) $\frac{7}{11}$

17. Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?

- (a) 2 years
- (b) 4 years
- (c) 6 years
- (d) 8 years

18. If $a^x = b$, $b^y = c$ and $c^z = a$, then the value of $xyz =$

- (a) 0
- (b) 1
- (c) -1
- (d) 2

19. A batsman has scored an average of 46 runs for a certain number of innings played in England. When he came back to India, he played another two test matches of two innings each and scored at an average of 55 runs. For the innings in England and in India taken together, he has improved his average by 2 runs over the matches played in England. What is the number of innings played in England?

- (a) 12
- (b) 13
- (c) 14
- (d) 15

20. A sells an article which costs him Rs 400 to B at a profit of 20%. B then sells it to C, making a profit of 10% on the price he paid to A. How much does C pay B?

- (a) Rs 472
- (b) Rs 476
- (c) Rs 528
- (d) Rs 532

21. A person lent out a certain sum on simple interest and the same sum on compound interest at certain rate of interest per annum. He noticed that the ratio between the difference of compound interest and simple interest of 3 years and that of 2 years is 25 : 8. The rate of interest per annum is

- (a) 10%
- (b) 11%
- (c) 12%
- (d) 12.5%

22. Ramesh travels 760 km to his home, partly by train and partly by car. He takes 8 hours, if he travels 160 km by train and the rest by car. He takes 12 minutes more, if he travels 240 km by train and the rest by car. What are the speeds of the train and the car?

- (a) Speed of car = 90 km/h, Speed of train = 60 km/h
- (b) Speed of car = 100 km/h, Speed of train = 80 km/h
- (c) Speed of car = 80 km/h, Speed of train = 70 km/h
- (d) Speed of car = 100 km/h, Speed of train = 90 km/h

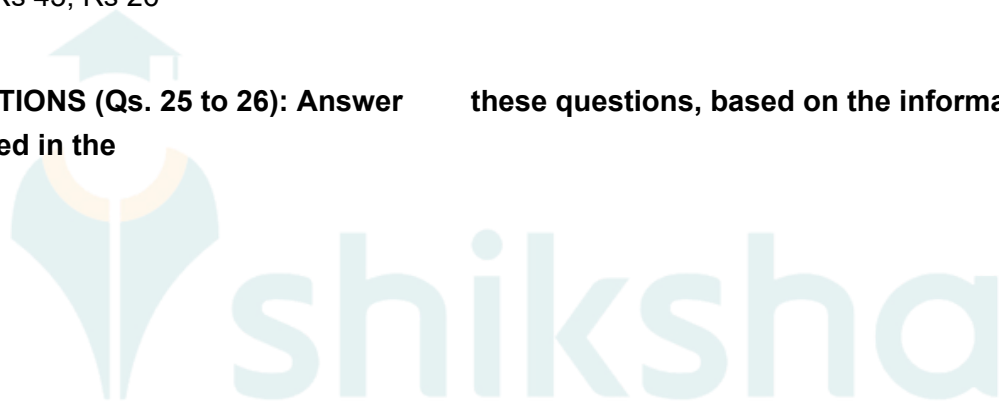
23. If the probability that A will live 15 years more is $\frac{7}{8}$ and that B will live 15 years more is $\frac{9}{10}$, then what is the probability that both will survive after 15 years?

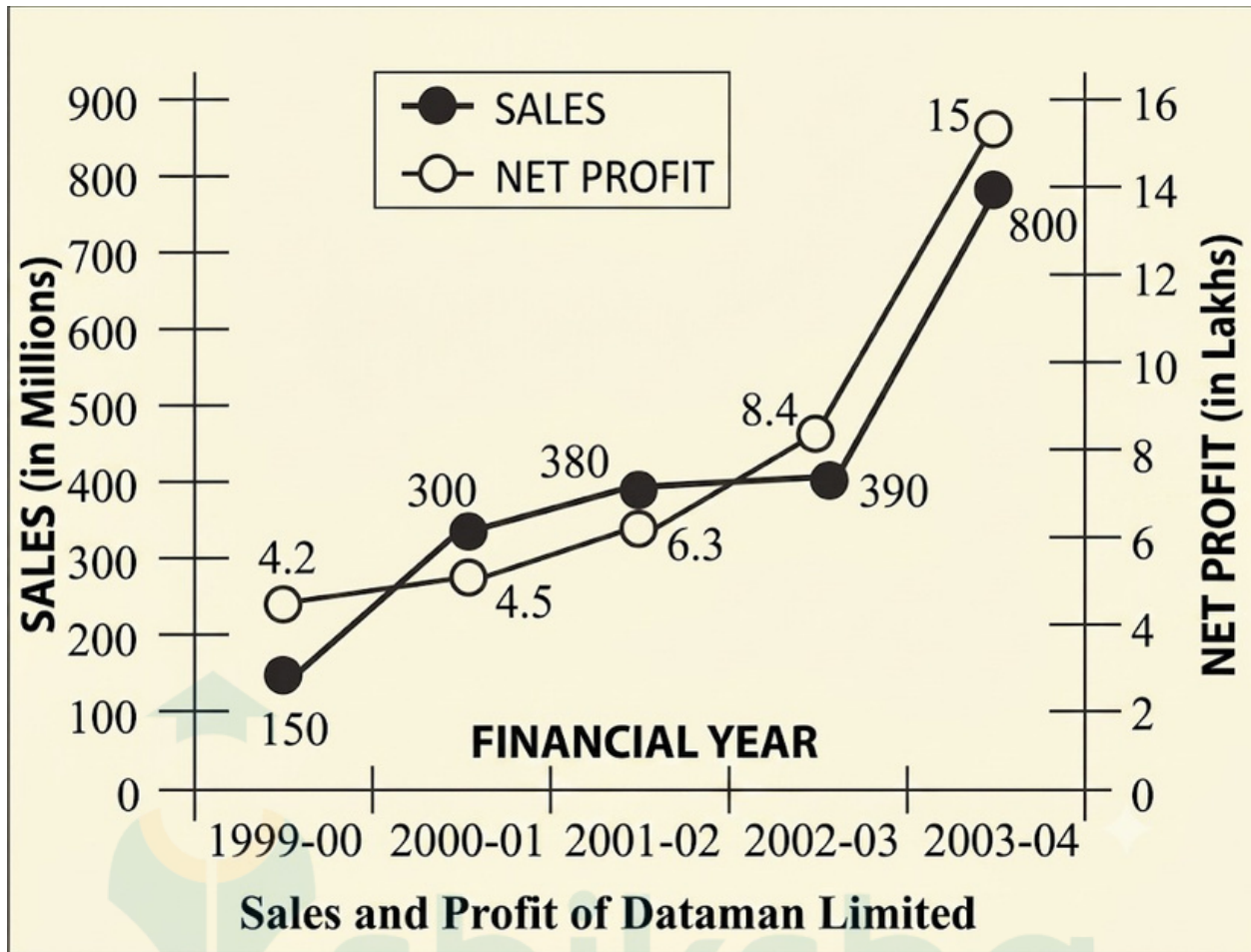
- (a) $\frac{1}{20}$
- (b) $\frac{63}{80}$
- (c) $\frac{1}{5}$
- (d) None of these

24. Ram and Mohan are friends. Each has some money. If Ram gives Rs 30 to Mohan, then Mohan will have twice the money left with Ram. But if Mohan gives Rs 10 to Ram, then Ram will have thrice as much as is left with Mohan. How much money does each have?

- (a) Rs 62, Rs 34
- (b) Rs 6, Rs 2
- (c) Rs 170, Rs 124
- (d) Rs 43, Rs 26

DIRECTIONS (Qs. 25 to 26): Answer these questions, based on the information provided in the





graph.

25. The highest percentage of growth in sales, relative to the previous years, occurred in

- (a) 2000-01
- (b) 2001-02
- (c) 2002-03
- (d) 2003-04

26. The highest percentage growth in net profit, relative to the previous year, was achieved in

- (a) 2000-01
- (b) 2001-02
- (c) 2002-03
- (d) 2003-04

27. Every ten years the Indian government counts all the people living in the country. Suppose that the director of the census has reported the following data on two neighbouring villages Chota Hazri and Mota Hazri:

- Chota Hazri has 4,522 fewer males than Mota Hazri.
- Mota Hazri has 4,020 more females than males.
- Chota Hazri has twice as many females as males.
- Chota Hazri has 2,910 fewer females than Mota Hazri.

What is the total number of males in Chota Hazri?

- (a) 11264
- (b) 14174
- (c) 5632
- (d) 10154

28. Boxes numbered 1, 2, 3, 4 and 5 are kept in a row and they are to be filled with either a red or a blue ball, such that no two adjacent boxes can be filled with blue balls. Then how many different arrangements are possible, given that all balls of a given colour are exactly identical in all respects?

- (a) 8
- (b) 10
- (c) 15
- (d) 22

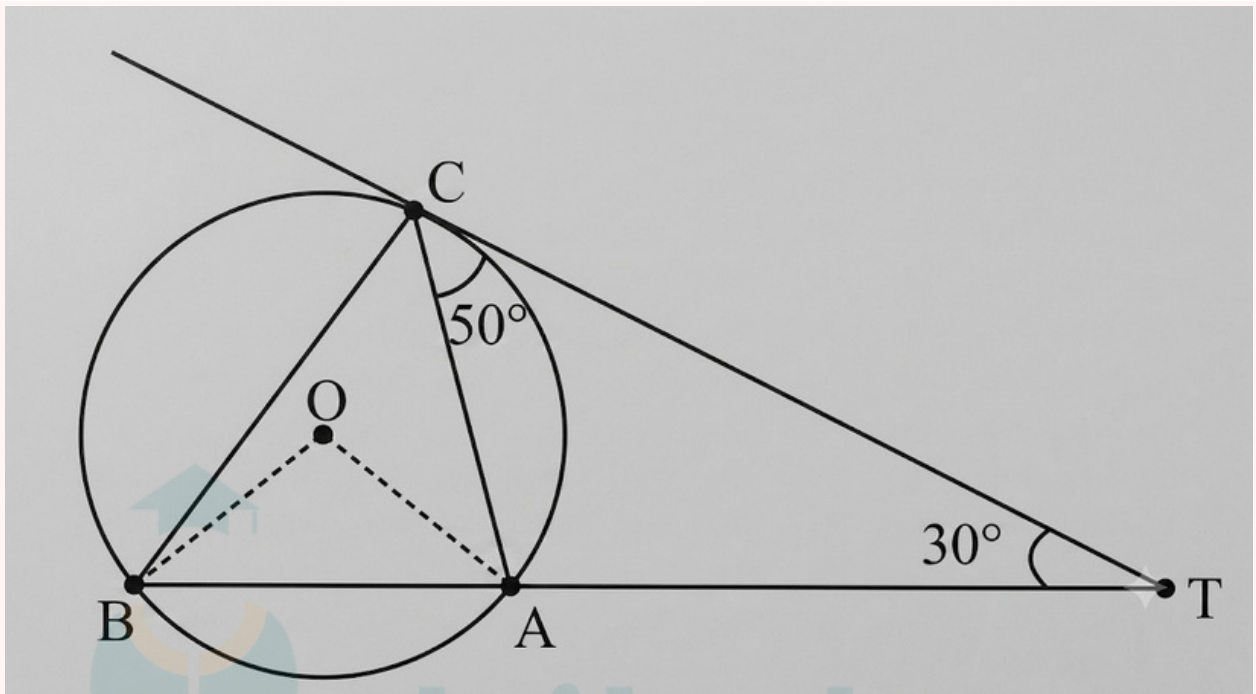
29. The letters of the English alphabet, in the order A to Z, are made to represent 26 numbers which are in Arithmetic Progression. The sum of the numbers representing A, C and E is 36 while that of A, C, E and G is 60. What is the sum of the numbers representing B, D, F and H?

- (a) 96
- (b) 66
- (c) 72
- (d) 84

30. In a 4-digit number, the sum of the first two digits is equal to that of the last two digits. The sum of the first and last digits is equal to the third digit. Finally, the sum of the second and fourth digits is twice the sum of the other two digits. What is the third digit of the number?

- (a) 5
- (b) 8
- (c) 1
- (d) 4

31. In the figure given below (not drawn to scale), A, B and C are three points on a circle with centre O. The chord BA is extended to a point T such that CT becomes a tangent to the circle at point C. If $\angle ATC = 30^\circ$ and $\angle ACT = 50^\circ$ then the angle $\angle BOA$ is



- (a) 100°
- (b) 150°
- (c) 80°
- (d) not possible to determine

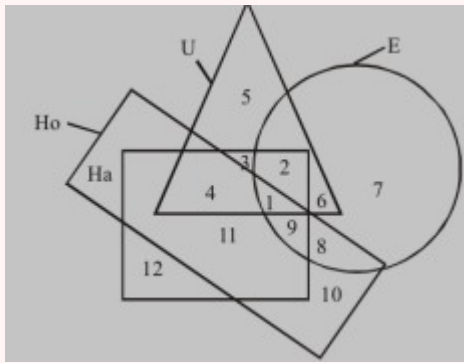
32. Three bells chime at an interval of 18, 24 and 32 minutes respectively. At a certain time they begin to chime together. What length of time will elapse before they chime together again?

- (a) 2 hours 24 minutes
- (b) 4 hours 48 minutes
- (c) 1 hour 36 minutes
- (d) 5 hours

33. In the following figure, the diameter of the circle is 3 cm. AB and MN are two diameters such that MN is perpendicular to AB. In addition, CG is perpendicular to AB such that $AE : EB = 1 : 2$, and DF is perpendicular to MN such that $NL : LM = 1 : 2$. The length of DH in cm is

SECTION - III: ANALYTICAL & LOGICAL REASONING

DIRECTION (Q.36): In the diagram below the circle stands for the 'educated', square for the 'hardworking', triangle for the 'urban' and the rectangle for the 'honest' people. Different regions in the diagram are numbered from 1 to 12. Study the diagram carefully and then answer the question.



36. People who are urban, educated and hardworking and honest are represented by:

- (a) 8
- (b) 1
- (c) 2
- (d) 9

37. In a group of persons travelling in a bus, 6 persons can speak Tamil, 15 can speak Hindi and 6 can speak Gujarati. In that group, none can speak any other language. If 2 persons in the group can speak two languages and one person can speak all the three languages, then how many persons are there in the group?

- (a) 21
- (b) 22
- (c) 23
- (d) 24

DIRECTIONS (Qs. 38-40): Read the information given below to answer the questions that follow:

Six persons A, B, C, D, E and F are going by a car to see Agra. In this group, there are four journalists, a professor and a doctor. In the group there are two married couples. No man in the group is a professor and a doctor. F is a sick man and he lives with his married son C. Among the three journalists, husband of D who looks after his sick father earns more than E who in turn gets more pay than B. Sister of E gets less pay than her husband B, but not more than A.

38. Who is the professor in the group?

- (a) A
- (b) B
- (c) C
- (d) Cannot be determined

39. Which of the following is a pair of ladies?

- (a) A, D
- (b) A, C
- (c) A, B
- (d) Cannot be determined

40. Who among the following earns the least?

- (a) A
- (b) B
- (c) C
- (d) D

41. If PRATAP could be provided the code number 1618120116, then what code number can be given to NAVIN in that code language?

- (a) 73957614
- (b) 24639125
- (c) 14122914
- (d) 19274651

42. If $A + B = C$, $D - C = A$ and $E - B = C$, then what does $D + F$ stand for?

- (a) J
- (b) O
- (c) C
- (d) Q

43. Find the missing character in the following grid:

3C	2B	4A
27A	?	64B
9C	4A	16B

- (a) 8C
- (b) 12B
- (c) 16C
- (d) 18C

44. "If you want a hassle-free holiday package for city M, then join only our tour. Hurry up; only a few seats available" - An advertisement of XYZ Tourist Company.

If the above statement is true then which of the following has been assumed while making the statement?

- (a) No seats may be available with other tour operators for city M.
- (b) Nowadays people have a lot of money to spend on their comforts.
- (c) Travel packages offered by other tour operators are neither cheap nor comfortable.
- (d) Many people desire convenience and comfort while going for a holiday.

DIRECTIONS (Qs. 45-46): In the questions that follow, there are given some statements followed by conclusions that can be drawn from them. Choose the conclusion which appeals to you to be the most appropriate.

45. Hydrogen is lighter than oxygen. Hydrogen is lighter than helium. Therefore, oxygen is the heaviest of the three gases.

- (a) False
- (b) True
- (c) Can't say
- (d) Probably false

46. The presence of Calcium in milk makes it white. Rice too, is white. Therefore, rice also contains calcium.

- (a) False
- (b) True
- (c) Can't say
- (d) Probably true

47. Kailash faces towards north. Turning to his right, he walks 25 metres. He then turns to his left and walks 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally, he turns to the right and moves 40 metres. In which direction is he now from his starting point?

- (a) South-West
- (b) South
- (c) North-West

(d) South-East

48. If the second, third, fifth, eighth and ninth letters of the word CONTEMPLATION are combined to form a meaningful word, what will be the middle letter of that word? If more than one such words can be formed, your answer is X and if no such word can be formed, your answer is Y.

- (a) X
- (b) O
- (c) A
- (d) Y

49. A clock is so placed that at 12 noon its minute hand points towards north-east. In which direction does its hour hand point at 1:30 pm?

- (a) North
- (b) South
- (c) East
- (d) West

DIRECTIONS (Qs. 50-51): Study the following information to answer the questions that follow:

A family consists of seven members P, Q, R, S, T, U and V. While one of them is a student, the other six follow different professions of Architect, Lawyer, Professor, Manager, Doctor and Engineer. There are two married couples in the family. P and U are Architect and Doctor, respectively. S, the father of Q and the grandfather of V, is an Engineer. No lady in the family is an Engineer or a Lawyer. V, who is a student, is the grandson of T.

50. Which of the following is one of the married couples?

- (a) QR
- (b) QU
- (c) PR
- (d) Data inadequate

51. How is R related to V?

- (a) Mother
- (b) Aunt
- (c) Sister
- (d) Data inadequate

52. Out of a total of 120 musicians in a club, 5% can play all the three instruments

guitar, violin and flute. It so happens that the number of musicians who can play any two and only two of the above instruments is 30. The number of musicians who can play the guitar alone is 40. What is the total number of those who can play violin alone or flute alone?

- (a) 30
- (b) 38
- (c) 44
- (d) 45

53. The letters L, M, N, O, P, Q, R, S and T in their order are substituted by nine integers 1 to 9 in that order. 4 is assigned to P. The difference between P and T is 5. The difference between N and T is 3. What is the integer assigned to N?

- (a) 5
- (b) 4
- (c) 6
- (d) 7

54. There are 50 students admitted to a nursery class. Some students can speak only English and some can speak only Hindi. Ten students can speak both English and Hindi. If the number of students who can speak English is 21, then how many students can speak Hindi, how many can speak only Hindi and how many can speak only English respectively?

- (a) 39, 29 and 11
- (b) 37, 27 and 13
- (c) 28, 18 and 22
- (d) 21, 11 and 29

55. If light is called 'morning', 'morning' is called 'dark', 'dark' is called 'night', 'night' is called 'sunshine' and 'sunshine' is called 'dusk', when do we sleep?

- (a) Dusk
- (b) Dark
- (c) Night
- (d) Sunshine

56. In a certain code language, '3a, 2b, 7c' means 'Truth is Eternal', '7c, 9a, 8b, 3a'

means 'Enmity is not Eternal' and '9a, 4d, 2b, 8b' means 'Truth does not perish'. Which of the following means 'Enmity' in that language?

- (a) 3a
- (b) 7c
- (c) 8b
- (d) 9a

DIRECTION (Q.57): In following question, there is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the assumptions to decide which of the assumptions is implicit in the statement:

57. Statement: People in Pratapgarh are not paying their telephone bills in spite of the various verbal warnings and reminders. It has now informed the subscribers through a notification that those who do not pay their bills by the due date will be charged penalty for every defaulting day.

Assumptions:

I. Majority of people may pay their bills by the due date to avoid penalty.

II. People generally pay heed to such statutory notifications.

- (a) if only assumption I is implicit
- (b) if only assumption II is implicit
- (c) if either I or II is implicit
- (d) if neither I nor II is implicit

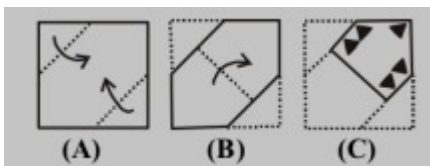
58. If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month?

- (a) Sunday
- (b) Monday
- (c) Wednesday
- (d) Friday

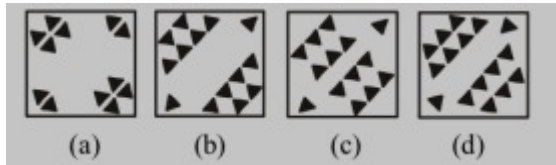
59. A piece of paper is folded and punched as shown below in the question figures.

From the given answer figures, indicate how it will appear when opened.

Question Figure :



Answer Figure :



- (a) Figure a
- (b) Figure b
- (c) Figure c
- (d) Figure d

60. The following figure is folded to form a block. Which symbol will appear on the opposite of triangle (Δ)?



- | | |
|-------|-------|
| (a) ● | (b) ★ |
| (c) ○ | (d) ■ |

ANSWER KEYS

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1	(d)	13	(a)	25	(d)	37	(c)	49	(c)
2	(a)	14	(c)	26	(d)	38	(d)	50	(d)
3	(b)	15	(d)	27	(c)	39	(a)	51	(d)
4	(a)	16	(b)	28	(d)	40	(d)	52	(c)
5	(b)	17	(c)	29	(c)	41	(c)	53	(c)
6	(b)	18	(b)	30	(a)	42	(a)	54	(a)
7	(c)	19	(c)	31	(a)	43	(a)	55	(d)
8	(c)	20	(c)	32	(b)	44	(d)	56	(c)
9	(a)	21	(d)	33	(b)	45	(c)	57	(c)
10	(b)	22	(b)	34	(a)	46	(d)	58	(a)
11	(c)	23	(b)	35	(c)	47	(d)	59	(b)
12	(b)	24	(a)	36	(b)	48	(b)	60	(c)

HINTS & SOLUTIONS

1. **(d)** The musician was testing the drum in (E) means drum is a percussion instrument (A). Drummed it into her in (F) means to force (D). The musicians were asked to drum in (G) means to beat a drum (B). Drumming her fingers in (H) means to sound rhythmically (C).

2. **(a)** In the passive voice, the focus shifts from the performer of the action (you) to the recipient of the action (others). We use the past participle of the verb (imitated) and add 'by' before the original subject (you).

3. **(b)** Reliable means something that can be trusted, inadequate means insufficient, novel is of a new kind and specious means false or misleading. According to the sentence the expert is able to trace the descent of fossil, so, it cannot seem reliable, what it would seem will be a word opposite to sufficient or reliable and that is inadequate.

4. **(a)** Acerbic means harsh in tone or manner, laconic is brief, remorseful is repenting having done something, stoical is suffering without complaint. Since the gap is followed by bitter and even, it should be a synonym of bitter in a higher degree which will be acerbic.

5. **(b)** The right use is *as + adjective + as*.

6. **(b)** The right usage is 'comes to mind'.

7. **(c)** Q contains the active subject and is thus the opening part. P will be the last as it

emphasises the 'blood pressure'.

8. (c) P is the opening sentence followed by R which gives another complaint, followed by S which gives yet another complaint. Q and T are examples of S.

9. (a) The use of 'that thing' is non-standard. Replace it with 'so'.

10. (b) The word 'perspicuous' means 'easy', 'clear' or lucid.

11. (c) Distraction is the antonym of Concentration.

12. (b) Remove 'to' after the word superior.

13. (a) The use of 'may' after the word whatever is redundant.

14. (c) Sprawl - to stretch; to spread. Other words are related to 'blame'; reprove.

15. (d) Heterogeneous is the correct spelling of the word.

16. (b) If x/y be a fraction, then: $2x / (y + 7) = 2/3 \Rightarrow 6x = 2y + 14 \Rightarrow 3x - y = 7$

$$(x + 2) / 2y = 3/5 \Rightarrow 5x + 10 = 6y \Rightarrow 5x - 6y = -10$$

Solving for x and y, we have x = 4 and y = 5. Thus the fraction is 4/5.

17. (c) Mother's age when Ayesha's brother was born = 36 yrs.

Father's age when Ayesha's brother was born = (38 + 4) years = 42 years.

Required difference = (42 - 36) years = 6 years.

18. (b) $a^x = b$, $b^y = c$, and $c^z = a \Rightarrow (a^x)^{y^z} = a \Rightarrow a^{xyz} = a^1$. On comparing the powers of a, we get $xyz = 1$.

19. (c) Let the number of innings played in England be x.

Total runs scored in England = 46x

Total runs scored for innings played in India = $55 \times 4 = 220$ (number of innings in India = 4)

Also, $(46x + 220) / (x + 4) = 48 \Rightarrow 46x + 220 = 48x + 192 \Rightarrow 2x = 28 \Rightarrow x = 14$.

20. (c) C.P. for B = 120% of Rs 400 = Rs 480. C.P. for C = 110% of Rs 480 = Rs 528.

21. (d) Let principal be Rs P and rate of interest be R% per annum.

Difference of C.I. and S.I. for 3 years = $(PR^2 / 10^4) \times ((300 + R) / 100)$

Difference of C.I. and S.I. for 2 years = $P(R / 100)^2$

Ratio = $(300 + R) / 100 = 25 / 8 \Rightarrow 8R = 100 \Rightarrow R = 12\frac{1}{2}\%$.

22. (b) Let speed of train be x km/h and speed of car be y km/h.

$$160/x + 600/y = 8$$

$$240/x + 520/y = 8 + 12/60 = 41/5$$

Multiplying and subtracting gives $y = 100$ km/h and $x = 80$ km/h. Speed of train = 80 km/h,
Speed of car = 100 km/h.

23. (b) Required Prob. = $7/8 \times 9/10 = 63/80$.

24. (a) $(M + 30) = 2(R - 30) \Rightarrow M - 2R = -90$ ---(i)

$(R + 10) = 3(M - 10) \Rightarrow R - 3M = -40$ ---(ii)

Solving (i) and (ii), we have $M = 34$ and $R = 62$.

25. (d) Percentage growth in sales: 2003-04 = $(800-390)/390 \times 100 = 105.12\%$ (Maximum)

26. (d) Percentage growth in net profit: 2003-04 = $(15-8.4)/8.4 \times 100 = 78.57\%$ (Highest)

27. (c) Let total no. of males in Chota Hazri be x . Females in Chota Hazri = $2x$.

Males in Mota Hazri = $x + 4522$. Females in Mota Hazri = $x + 4522 + 4020 = x + 8542$.

According to question: $2x + 2910 = x + 8542 \Rightarrow x = 5632$.

28. (d) Total ways = $2^5 = 32$. Cases in which blue balls are filled in adjacent boxes = 10 ways. Total valid cases = $32 - 10 = 22$.

29. (c) Let number representing A be a , common difference d .

$a + (a+2d) + (a+4d) = 36 \Rightarrow 3a + 6d = 36$

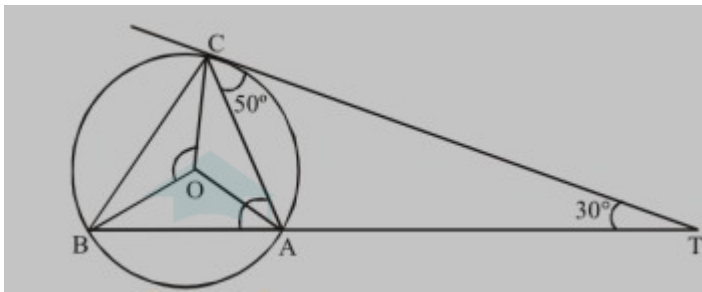
$(A+C+E+G) - (A+C+E) = 60 - 36 \Rightarrow G = 24 \Rightarrow a + 6d = 24$

Solving: $2a = 12 \Rightarrow a = 6, d = 3. B + D + F + H = 4a + 16d = 24 + 48 = 72.$

30. (a) Let ABCD be the 4-digit number. $A + B = C + D$ ---(1), $A + D = C$ ---(2), $B + D = 2(A + C)$ ---(3).

From (1) & (2): $B = 2D$. Substituting in (3): $D = 4A \Rightarrow B = 8A \Rightarrow C = 5A$. For $A = 1, C = 5$.

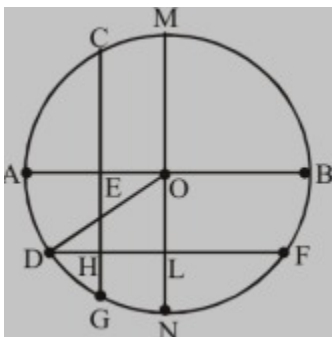
31. (a) In $\triangle ACT$, $\angle C = 50^\circ$ and $\angle T = 30^\circ \Rightarrow \angle A = 100^\circ$.



Applying tangent theorem: $\angle B = 50^\circ, \angle C = 50^\circ \Rightarrow \angle BOA = 100^\circ$.

32. (b) L.C.M. of 18, 24 and 32 = 288. Hence they chime together after every 288 min. or 4 hrs. 48 min.

33. (b) $AE:EB = 1:2 \Rightarrow AE = 1, EB = 2. NL:LM = 1:2 \Rightarrow NL = 1, LM = 2.$



$OL = 2 - 1.5 = 0.5, EO = 2 - 1.5 = 0.5.$ EOHL is a square of side 0.5 cm.

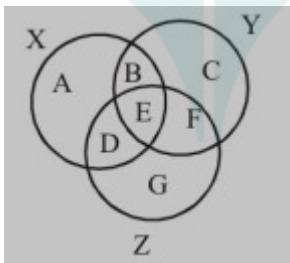
In ΔDOL : $DO^2 = DL^2 + OL^2 \Rightarrow (1.5)^2 = (DH + 0.5)^2 + (0.5)^2 \Rightarrow (DH + 0.5)^2 = 2 \Rightarrow DH = \sqrt{2} - 0.5 = (2\sqrt{2} - 1)/2$.

34. (a) Let total popcorn stock = T, chips stock = T. Popcorn Jumbo fraction = $16/40 = 2/5$. Chips Jumbo fraction = $14/35 = 2/5$. Required ratio = $(2/5 T) : (2/5 T) = 1 : 1$.

35. (c) For stack of 5 cubes: Case I (3 U, 2 L): 3 ways. Case II (4 U, 1 L): 4 ways. Case III (5 U): 1 way. Total = $3 + 4 + 1 = 8$ ways.

36. (b) Region 1 represents the common region in all four figures.

37. (c) Total = $6 + 15 + 6 - 2 - 2(1) = 23$ persons.



38. (d) Cannot be determined (A or D may be professors).

39. (a) A and D are female members of the group.

40. (d) Earnings order: $D < A < B < E < C$. D earns the least.

41. (c) $N=14, A=1, V=22, I=9, N=14 \Rightarrow 14122914$.

42. (a) $D = 4, F = 6. D + F = 10 = J$.

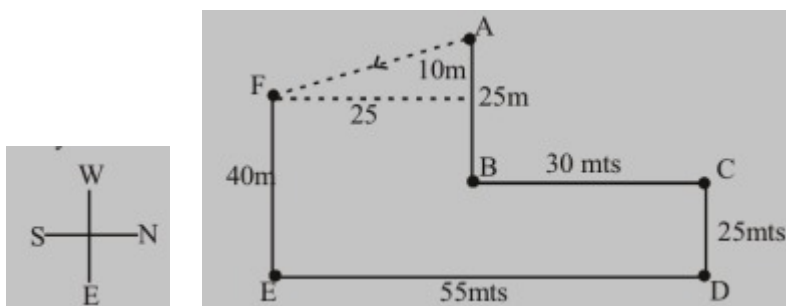
43. (a) Missing number = $2 \times 4 = 8$, letter = C $\Rightarrow 8C$.

44. (d) The company assumed that people desire convenience and comfort for holidays.

45. (c) Can't say, as no direct comparison between Oxygen and Helium is given.

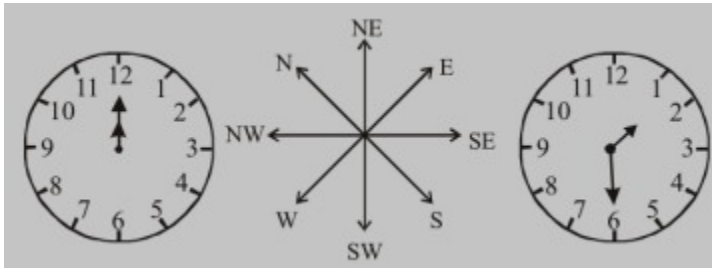
46. (d) Probably true.

47. (d) Kailash ends up in the South-East direction relative to start.



48. (b) Word formed is 'ALONE'. Middle letter is O.

49. (c) Hour hand at 1:30 p.m. points towards the East.



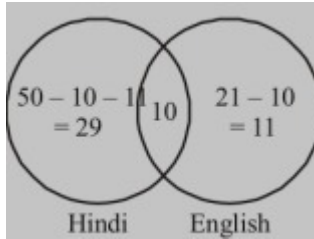
50. (d) Data inadequate.

51. (d) Data inadequate.

52. (c) All three = 6, exactly two = 30, guitar alone = 40. Violin/Flute alone = $120 - (40 + 30 + 6) = 44$.

53. (c) P = 4, T = 9, N = 6.

54. (a) Total Hindi = 39, Only Hindi = 29, Only English = 11.



55. (d) Night is called sunshine $\Rightarrow$ Sunshine.

56. (c) '8b' means enmity in the code language.

57. (c) Both/Either assumptions are implicit.

58. (a) 7th day is Tuesday, 19th day is Sunday.

59. (b) Figure B.

60. (c) Opposite face of triangle (Δ) is symbol (c).