

SNAP MOCK - I

Answers and Explanations

1	c	2	c	3	b	4	c	5	d	6	c	7	a	8	c	9	b	10	d
11	a	12	c	13	a	14	c	15	b	16	b	17	a	18	b	19	d	20	d
21	b	22	b	23	c	24	d	25	c	26	d	27	a	28	b	29	c	30	a
31	a	32	c	33	d	34	a	35	b	36	b	37	d	38	a	39	c	40	a
41	d	42	a	43	c	44	c	45	a	46	c	47	a	48	d	49	c	50	c
51	c	52	b	53	c	54	a	55	b	56	a	57	d	58	b	59	a	60	b
61	c	62	b	63	b	64	d	65	a	66	a	67	b	68	d	69	b	70	b
71	a	72	d	73	d	74	c	75	b	76	a	77	c	78	c	79	b	80	a
81	a	82	d	83	a	84	c	85	d	86	a	87	b	88	b	89	c	90	a
91	d	92	c	93	a	94	d	95	b	96	d	97	b	98	b	99	a	100	c
101	a	102	c	103	d	104	b	105	d	106	c	107	a	108	d	109	c	110	b
111	d	112	d	113	c	114	a	115	d	116	b	117	c	118	c	119	a	120	d
121	c	122	d	123	c	124	b	125	d	126	b	127	d	128	b	129	d	130	a
131	c	132	a	133	d	134	c	135	c	136	c	137	d	138	b	139	c	140	c
141	d	142	a	143	c	144	c	145	b	146	b	147	b	148	c	149	c	150	a

MCT-0002/12

For questions 1 to 3:

It is given that two of the four friends always speak the truth, so two of the four statements should simultaneously be true, and the pair is (i) and (iv). Hence, the two members who always speak the truth are P and S.

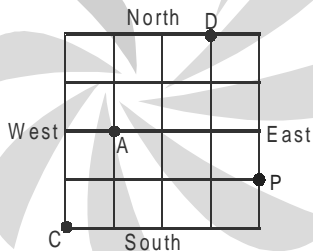
The complete information can be summarized in the table below.

Section	A		B	
	P	S	Q	R
Student	P	S	Q	R
Sectional Rank	1	2	2	1
Overall Rank	3	4	2	1

- c
- c
- b
- c
The dimensions of the wall can be rewritten as 400 cm x 60 cm x 400 cm.
The number of cubical bricks used for the construction will be minimum if the edge of the bricks is as large as possible, so its edge should be the HCF (400, 60, 400) i.e. 20 cm.
Hence, the minimum number of bricks required
$$= \frac{400 \times 60 \times 400}{20 \times 20 \times 20} = 20 \times 3 \times 20 = 1200.$$
- d
The required number of bricks = 1200 - (18 x 19) = 858.

6. c The number of routes = $\frac{4!}{2! \times 2!} = 6.$

7. a



In the figure given above, point P shows present position of Sajid. Therefore, routes advised in statements (i) and (ii) could lead him to the point C.

For questions 8 to 10:

The following table depicts proceedings of the machine.

Steps	Input	Number of neutrons produced(+) or destroyed(-)	Number of neutrons left with machine at the end of step
1	X=1 & Y=1	-2	8
2	X=1 & Y=2	3	11
3	X=2 & Y=3	5	16
4	X=3 & Y=5	-8	8
5	X=5 & Y=8	13	21
6	X=8 & Y=13	21	42
7	X=13 & Y=21	-34	8
8	X=21 & Y=34	55	63
9	X=34 & Y=55	89	152
10	X=55 & Y=89	-144	8

- c
- b
As it can be observed from the table that the number of neutrons left with the machine at the end of 1st step, 4th step, 7th step, 10th step, and so on is 8.
Hence, the number = 8.
- d
It will never happen.
- a
The following table depicts proceedings of the machine.

Steps	Input	Number of neutrons produced(+) or destroyed(-)	Number of neutrons left with the machine at the end of step
1	X=2, Y=2	-4	6
2	X=2, Y=4	-6	0 (Stop)

For questions 12 to 15:

From statements (i), (ii), (iii) and (iv), it can be concluded that T is wife of P. Now, from statements (v) and (vi), S is the husband of R.

Further analysis leads to the following tables.

Faculty	Subject
P	Mathematics
Q	Geography
R	History
S	Chemistry
T	Zoology
U	Civics
V	Physics

Husband	Wife
P	T
S	R

12. c

13. a

14. c

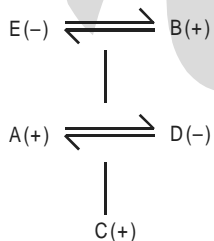
15. b

For questions 16 to 18:

From statement (v), A must swim on Friday. From statements (ii) and (iii), C and E must swim on Thursday and Monday respectively. Hence, B must swim on Wednesday and D on Tuesday.

The conclusions drawn above can be summarized in the table and diagram given below.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Swimmer	E	D	B	C	A



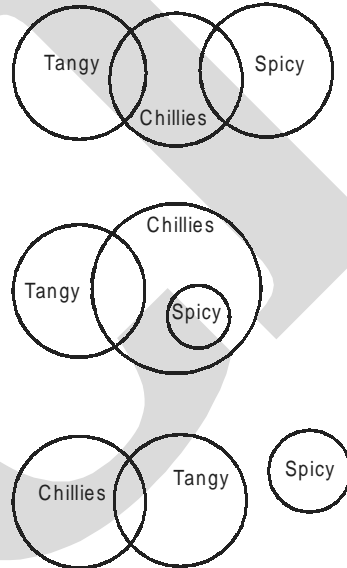
16. b

17. a

18. b

19. d H states that measures are taken to check drought. F states that there is no drought. Statements H and F are inconsistent because according to statement B, measures are taken to check drought only if there is drought. Hence the correct answer is (d).

20. d The three possible cases are as follows:

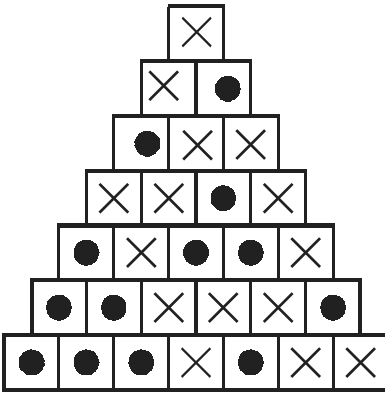


Hence, option (d) is correct.

21. b The argument states that increased investment in R&D **across all sectors** promotes innovation and boosts economic growth. Furthermore, patent applications are an indicator of innovation because there exists a strong correlation between patent applications and R&D expenditure. While option (b) says that number of patent applications depends more on R&D expenditure in **business sector** and not on R&D gross domestic expenditure. It implies that increased investment is required in business sector only and not across all sectors. Option (a) does not affect the argument. Option (c) is very specific as it talks about the past decade while the argument talks about a general scenario. Option (d) can be ruled out because presence of other indicators of innovation have no bearing on this argument.

22. b Naysayers suggest that that company cannot adopt the recommended strategy because the financial condition of the company does not allow them to take any risk and the author responds by stating that risk is not a bad thing. He distorts the original argument and makes it seem that the company is averse to the idea of taking risk because they feel its bad whereas the company's reason for not taking risk is its financial condition. Option (b) best encompasses the essence of the text. Option (a) is incorrect because there is no element of emotion in the argument. Option (c) is eliminated as the author does not prove anything in the argument. Option (d) can be ruled out since there is no conclusion drawn.
23. c The argument says that although punishment deters the child from behaving in a certain way, it fails to teach him the behaviour that parents want the children to learn. This momentary deterrence is because of the fear of pain. Option (c) is similar in reasoning as it states that a temporary problem is treated as a permanent one at a workplace. Consequently such processes are designed which only manage to resolve the problem at hand but fail to provide permanent solutions. Options (a) and (b) are not similar in pattern to the given argument. Option (d) is incorrect because it talks about *increased risks of repeating the action*, which is not indicated in the main argument.
24. d Option (d) talks about how stress and other factors can pollute the data collected by the device and can lead to wrong readings. If this is true then the device will not work well and the above premise that the device will help save lives, falls apart. All the other options talk about the factors which must be true for the device to be a success. Unless soldiers wear the device, it won't work. Since the device will lead to evacuation and treatment - we are assuming that, that will be enough to save lives. Option (b) is the assumption on which "The sensor can instantly discern life-threatening changes that point to heat stroke or dehydration" is based.
25. c Option (a) can be concluded from the fact that the tobacco majors are opposing this move of adding photos to text. Option (b) can be inferred from the first sentence that the US hopes to deter smokers through the graphic images. Option (c) talks about preventing children from smoking – children specifically have not been indicated anywhere in the paragraph. Smokers in general will be deterred but there is no specific assumption about children. Option (d) is an assumption; this can be concluded from the fact that the tobacco majors are opposing this move of adding photos to text.
26. d The passage indicates that a 25 paisa coin had some worth in old times because it could buy you a lot of things. But it doesn't indicate that a 25 paisa coin was a huge (princely) sum and was sufficient to buy everything and anything. This rules out options (a) and (c). Though the second part of option (b) is correct, the first part can't be inferred from anything in the passage. There is no discussion about the rate of inflation. This rules out option (b). Option (d) can be inferred from the first two lines of the paragraph. There was once some worth of the 25 paisa coin and now it is valueless.
27. a Just as sad and disconsolate are synonyms, similarly hungry and famished are synonyms. Disconsolate means cheerless or gloomy and famished means extremely hungry. Despondent means dejected. Demeanor means behaviour. Serence and excitable are antonyms. Hence, option (a) is correct.
28. b Option (a) follows from "Like the Election Commission and the Supreme Court, the CAG has managed to protect its integrity and independence despite pressure..." So, it is implied that they have succeeded in protecting their integrity. Option (c) can be inferred from "...is more than just the keeper of our national accounts". It is clear from the passage that the Comptroller and Auditor General performs other duties in addition to keeping national accounts but the later remains his primary function. Option (d) can be inferred from the lines, "...a robust audit can serve as a catalyst for corrective action" and "which may not bite but can bark and warn ordinary citizens" It implies that warning citizens about faults/errors in the wider affairs of state can be of help to the nation. Option (b) has two parts. The second part which says that CAG's observations contribute to the public good states the fact that an audit serves as a catalyst for corrective action – this is true and the author believes the same. However there is nothing in the paragraph to indicate that the CAG' observations are always embarrassing to the government. This may or may not be true.
29. c The given statement is 'If P then Q' type where 'clouds are grey' is the cause and 'it will not rain' is the effect. To prove it false we have to show that there is no effect when there is cause. This is given in option (c); there is cause (clouds are grey) but no effect (it rains).

30. a The cell has a dot if the two cells below it have the same signs; it has a cross if the two cells below it have the different signs. After filling the blank cells, the diagram will look like as shown below.



Hence, the number of dots = 13

- | | | | | |
|-------|-------|-------|-------|-------|
| 31. a | 32. c | 33. d | 34. a | 35. b |
| 36. b | 37. d | 38. a | 39. c | 40. a |
| 41. d | 42. a | 43. c | 44. c | 45. a |
| 46. c | 47. a | 48. d | 49. c | 50. c |
| 51. c | 52. b | 53. c | 54. a | 55. b |
| 56. a | 57. d | 58. b | 59. a | 60. b |
| 61. c | 62. b | 63. b | 64. d | 65. a |
| 66. a | 67. b | 68. d | 69. b | 70. b |

71. a The passage follows a comparative style of writing – the comparison is between Chaucer and Gower. The first paragraph provides specific details on Chaucer and the second paragraph goes on to discuss specific details on Gower while comparing these with details on Chaucer. Option (a) is the answer. Option (b) cannot be inferred because the author does not write the passage as if he were trying to understand an issue/present a problem and its solution. There are minor elements of analysis but the overall style is comparative. Option (c) can be ruled out as the author does not follow a narrative style. Option (d) could have been inferred had the author described the styles or personalities or work profiles of both Chaucer and Gower.

72. d Refer to the last four lines of the passage. It can be inferred that there is not enough documentary evidence in the case of Gower than there is in the case of Chaucer. The last line also discusses that the next few chapters will discuss “the impact on and significance for his (*Gower's*) poetics and politics”. This is a clear indication that the author will maintain this as his motive for the next few chapters. Option (d) is the answer. Options (a) and (c) cannot be inferred as there is not enough information to infer either option. Option (b) is incorrect because there is no information in the passage to suggest that Chaucer’s experiences influenced Gower’s writings.

73. d The last paragraph indicates that Chaucer was Gower’s contemporary and friend. So option (d) is correct. The last few lines of this paragraph state the following phrases “Gower’s connection with the law” and “assessing the impact on and significance for his poetics and politics.” From both these phrases one cannot infer that Gower was a lawyer – hence, not option (c). However, one can infer that Gower was a poet – from the use of the words “his poetics”. But it is nowhere indicated in the passage that Chaucer was a poet too. So, option (a) is ruled out. Option (b) can be eliminated as there is no evidence in the passage to prove that Chaucer and Gower were competitors.

74. c *Astute* means shrewd or perceptive.

75. b Tachophobia is the fear of speed. Fear of taking tests is known as ‘testophobia’. ‘Technophobia’ refers to the fear of technology. Fear of road travel is called ‘hodophobia’.

76. a Indelible means permanent; that cannot be removed.

77. c An *oxymoron* is a figure of speech in which incongruous or contradictory terms appear side by side. Paradox is a statement or proposition that seems self-contradictory or absurd but in reality expresses a possible truth. *Alliteration* is the repetition of an initial consonant sound. Hyperbole is a figure of speech in which exaggeration is used for emphasis or effect.

78. c ‘ask of’ is correct which means to expect/demand something from somebody.

79. b ‘compare with’ is used to stress differences, while ‘compared to’ is used to assert similarities between two things. Since, the given sentence compares two different things to stress how each is different from the other, ‘compared with’ is correct.

80. a Option (a) fits best in the sentence and makes it logical. 'Whirl' means to turn around or away rapidly. 'Whirl' refers to a curl or swirl. So option (b) is incorrect. Option (c) is inappropriate as this verb form does not fit in the given sentence. 'to' is always followed by an infinitive. Option (d) is not related to the sentence in any way.
81. a Logically Q should be the first sentence of the set because it rightly follows the first part of the sentence i.e. arrest leading to being detained. Further the sequence of events should proceed from the right to consult to legal representation during the trial. Also S and R form a mandatory pair with 'such an arrest' referring to 'detaining in custody'. Thus, option (a) is the correct sequence.
82. d The correct sequence is given in option (d). S and R form a mandatory pair because 'rush hour' in S is linked to 'traffic jam' in R. Q definitely precedes the last part of the sentence as it renders the sentence meaningful by answering – separates us from what – ultimate reality. Hence, the correct order is SRPQ.
83. a Just like 'visual' is related to the sense of sight, 'audition' is related to the sense or power of hearing, 'olfactory' is related to the sense of smell and 'gustation' is related to the sense of taste. Option (a) does not represent a similar relationship because tactition is the sense of touch and not just sensation.
84. c 'Contemporary' means modern. 'Ancient' is its antonym. 'Trendy' does not fit in logically in the given sentence and 'post-modern' is out of scope.
85. d 'Progressive' means increasing or advanced. 'advanced' will be incorrect here as 'advanced deterioration' will make the sentence incorrect. Advanced is a positive term and deterioration has negative connotations. So, option (d) is correct. 'Regressive' is the opposite of progressive.
86. a 'To attribute' is to ascribe. So, option (a) is correct.
87. b 'Paucity' means lack or dearth of something.
88. b 'All thumbs' means very awkward and clumsy.
89. c 'High on the hog' means to live in luxury.
90. a If something is as clear as mud, then it is very confusing and unclear.
91. d The sentence is correct and requires no modification.
92. c The correct sentence will read as : "...should be controlled immediately." Land based activities cannot be in control, they have to be controlled because they have an adverse impact on coastal and marine ecosystems.
93. a There is a parallelism error in the sentence. The first part of the sentence says 'burning – of something', so the second part should also follow the same structure. The correct sentence will be: "...the *clearing* of forests have..."
94. d When a sentence in present tense is changed to passive voice, the thing receiving the action (71% of the surface area of the globe) becomes the subject of the sentence followed by 'be' + past participle of the verb (covered) + by + doer of the action (ocean). This makes option (d) correct and rules out option (a). Option (b) is incorrect because the tense of the sentence has been changed here. The correct sentence form will be: "The globe *has* 71% of its...". Option (c) is wrong because the actual sentence does not have 'almost' before covered.
95. b The given sentence is in the future perfect tense. The rule for passive form of future perfect tense is: Main verb object (enough money) + shall/will + have been + 3rd form of the main verb (saved) + by + subject (he). Hence, option (b) is incorrect.
96. d Just as a brick is used to build a wall and a wall is used to build a building, similarly an alphabet is used to create a word and a word is used to create a sentence. In addition, a brick is a constituent of a wall and a wall is a constituent of a building. Same is the case with an alphabet, word and a sentence. Hence, option (d) is correct. Option (b) is incorrect because neither a thread is used to make a needle nor is it a constituent of a needle.
97. b The phrase 'look forward to' or 'looking forward to' is always followed by a gerund i.e. *meeting* in this case. Option (d) is incorrect because 'meeting' when used as a verb is never followed by 'with'.
98. b Since we are talking of two events in the past happening simultaneously, we need to use the past continuous tense for both cases. Hence option (b) is the correct answer.
99. a 'Cross-leg' is incorrect. The correct term is cross-legged. Crossway is a crossroad. Crossbeam is a horizontal or transverse beam, especially a structural beam resting on two supports. Crosscurrent refers to a current flowing across another current.

100. c 'Free-time' is incorrect. These are two separate words. Freeboot is to act as a freebooter; plunder. Freebee is an article or service that is given free. Freehold refers to an estate held in fee simple or for life.
101. a *Laid* is the past form of *lay*. 'lay out' means to spread out, or to arrange things so you can see them easily. The phrasal verb is correctly used in option (a). 'lay low' means put out of action (by illness). 'lay down' means to give up and surrender or to specify. It does not fit in with the context of the sentence. 'lay over' is to make a stopover in the course of a journey. 'Lying' is the present participle of lie which means to deceive.
102. c Option (c) is correct as 'for' is used to measure a period of time up to the present. Option (a) is incorrect as 'since' gives the starting point of actions, events or states and is used in reference to the beginning of a time period.
103. d Option (a) is incorrect as it uses the phrase 'of a brain' which means a particular brain. The sentence talks about brain in general. Option (b) is partly incorrect because of the same reason. "... amongst other symptoms..." is also incorrect in option (b) as it means *in the midst of*. Option (c) is eliminated because 'loss of' only modifies balance and not vision. Effect of MS on vision is not stated. Option (d) is the correct choice.
104. b Option (b) is incorrect as it uses the phrase 'in time'. 'In time' means before the last minute while 'on time' means at the planned time. 'On time' will be incorrect in the context of the given sentence because bringing the accident victim to the hospital in case of emergency can never be pre-planned. 'at the hospital' makes option (c) incorrect because 'at' is used to indicate a point or place occupied in space while 'to' is used for expressing motion or direction toward a point, person, place, or thing approached and reached.
105. d 'Paeon', 'encomium' and 'eulogy' are synonyms. All three words refer to a formal expression of praise. 'Dirge' is a funeral hymn. Hence, option (d) is the odd one.
106. c The sheer extravagance of the titanic is substantiated through the superlatives mentioned in S. P follows S as it gives the other side of the fascination for titanic. RQ is a mandatory pair with R describing how titanic is symbolic of epic performances for some people and B giving an example of one such performance. It falls in place before S6 which also highlights another example of the performance of people on-board. Option (c) is the correct answer.
107. a 'Parsimonious' means stingy or miserly. 'Penurious' is its synonym which also means stingy. 'Parochial' – of or relating to a church parish.
108. d 'Sedulous' means showing dedication and diligence. 'Assiduous' also means diligent and hence is the correct synonym. 'Bombastic' means pompous.
109. c 'Laconic' means brief and to the point; terse or concise. 'Verbose' means wordy. Hence, laconic and verbose are antonyms. 'Sardonic' means scornfully or cynically mocking.
110. b 'Philomath' is a seeker of knowledge and facts; a lover of learning. It aptly fits in the first blank of the sentence. 'Potential' means **latent qualities or abilities** that may be developed and lead to future success or usefulness. Placing 'potential' in the second blank makes the sentence logical and meaningful. Options (a) and (c) can be easily eliminated as 'fate' and 'fiasco' cannot be unlocked and so cannot be used in the second blank. Option (d) is incorrect because putting 'teacher' in the first blank makes the sentence irrational. One cannot be a teacher all his life without realizing it. Hence, option (b) is correct.
111. d Let the speed (in m/s) and length (in meters) of the train be s and l respectively.
- $$\therefore l = \left(s + 6 \times \frac{5}{18} \right) \times 18 = 18s + 30$$
- Also, $l + 160 = 30 \times s$
- $$\Rightarrow 18s + 30 + 160 = 30 \times s$$
- $$\Rightarrow s = \frac{95}{6} \text{ m/s} = 57 \text{ km/hr.}$$
112. d $P = S > A$ is true for $N = 3$.
 $P > S > A$ is true for $N = 4$.
 $S > P > A$ is true for $N = 2$.
Hence, none of the options is definitely false.
113. c $\log_4 2^2 + \log_4 2^8 + \log_4 2^{18} + \dots + \log_4 2^{2n^2}$
- $$= \log_4 4 + \log_4 4^4 + \log_4 4^9 + \dots + \log_4 4^{n^2}$$
- $$= 1 + 4 + 9 + \dots + n^2$$
- $$= \sum n^2 = \frac{n(n+1)(2n+1)}{6} = \frac{(n^2 + n)(2n + 1)}{6}$$
114. a When a perfect square is divided by 9, remainder can be one among 0, 1, 4 and 7. Hence, 5 cannot be the remainder.

115. d Let the number of units done by each man and woman per day be 'm' and 'w' respectively.

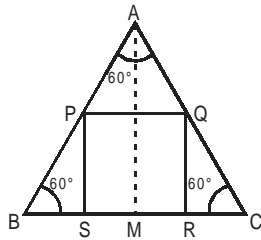
$$\therefore (9m + 6w) \times 11 = \frac{3}{5} \times (8m + 6w) \times 20$$

$$\Rightarrow \frac{m}{w} = \frac{2}{1}$$

Hence, the number of days

$$= \frac{(8m + 6w) \times 20}{3m + 5w} = \frac{(8 \times 2w + 6w) \times 20}{(3 \times 2w + 5w)} = 40.$$

116. b



Let the side (in cm) of the square be $2x$.

In the figure above, triangle AMC and QRC are similar.

$$\therefore QR:RC = AM:MC$$

$$\Rightarrow \frac{2x}{5-x} = \frac{5\sqrt{3}}{5}$$

$$\Rightarrow x = (10\sqrt{3} - 15) \text{ cm} = 5\sqrt{3}(2 - \sqrt{3}) \text{ cm}$$

Hence, the side of the square = $2x = 10\sqrt{3}(2 - \sqrt{3}) \text{ cm}$.

117. c The month of April has $7 \times 4 + 2 = 30$ days
The four weeks will definitely have 4 Tuesdays and 4 Wednesdays. Out of 7 possible pairs of two consecutive days, only 3 pairs will consist of either Tuesday or Wednesday.

$$\text{Hence, the probability} = \frac{3}{7}.$$

118. c Let the selling price of one article be ₹x.

$$\text{Hence, the percentage profit} = \frac{12x}{84x - 12x} \times 100 = 16.67.$$

119. a On the basis of the given information,

$$\text{Speed of B} = \frac{80}{10} = 8 \text{ m/s}$$

Let the time taken by A to finish the race be t second.

$$\therefore t \times 8 + 30 \times 8 = 2000 - 80 = 1920$$

$$\Rightarrow t = 210$$

$$\text{Hence, the speed of A} = \frac{2000}{210} = 9 \frac{11}{21} \text{ m/s.}$$

120. d Surface area of the wooden cuboidal block
= $2(lb + bh + lh) = 2 \times (48 + 24 + 32) = 208 \text{ cm}^2$
Number of smaller cubes = $8 \times 6 \times 4 = 192$

$$\therefore \text{The total surface area of the smaller cubes} = 192 \times 6 \times 1^2 = 1152 \text{ cm}^2$$

$$\text{Hence, the percentage} = \frac{1152 - 208}{208} \times 100 \approx 454.$$

121. c For a number to be divisible by 16, the last four digits of the number should be divisible by 16. Therefore, the value of K is 8.

In order to maximize value of the product, P should be 9 as it can take any value from 0 to 9.

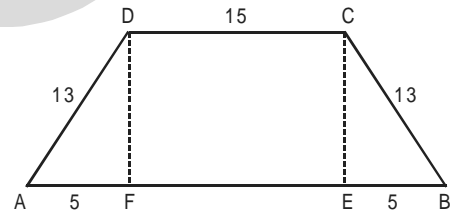
$$\text{Hence, the product} = 8 \times 9 = 72.$$

122. d The number of student = $27 + 36 + \left(\frac{27}{3} - 1\right) - 13 = 58.$

123. c Out of 36 possible pairs, only nine pairs: (1,1); (1,3); (1,5); (3,1); (3,3); (3,5); (5,1); (5,3) and (5,5) will give the odd product.

$$\text{Hence, the probability} = 1 - \frac{9}{36} = \frac{27}{36} = \frac{3}{4}.$$

124. b



In the triangle ADF,

$$AD^2 = AF^2 + FD^2 \Rightarrow 13^2 = 5^2 + FD^2 \Rightarrow FD = 12$$

$$\text{Hence, the area} = \frac{1}{2} \times (15 + 5) \times 12 = 240 \text{ cm}^2.$$

For questions 125 to 128:

Total budgeted funds (in crores) for education in:

FY 2007-08 = 1800

FY 2008-09 = (1800 + 300) = 2100

FY 2009-10 = (1800 + 300 × 2) = 2400

FY 2010-11 = (1800 + 300 × 3) = 2700

$$125. d \quad \text{The percentage} = \frac{\frac{2400}{100} \times 45 - \frac{2100}{100} \times 40}{\frac{2100}{100} \times 40} \times 100$$

$$= 28.57.$$

126. b Funds (in crores) allocated towards Higher Education (HE) in:

FY 2008-09 = 40 % of 2100 = 840

FY 2010-11 = 35 % of 2700 = 945

Hence, the answer = 840 + 945 = 1785

127. d Funds (in crores) allocated towards Secondary Education (SE) in:

FY 2007-08 = 35 % of 1800 = 630

FY 2008-09 = 20 % of 2100 = 420

FY 2009-10 = 25 % of 2400 = 600

FY 2010-11 = 15 % of 2700 = 405

Hence, the year was FY 2009-10.

128. b Option (b) is not true as funds (in crores) allocated towards Secondary Education in FY 2008-09 was 420 and in FY 2010-11 was 405.

$$129. d \quad \text{The percentage} = \frac{60}{360} \times 100 = 16.67.$$

$$130. a \quad \text{The percentage} = \frac{(120 - 45)}{45} \times 100 = 166.67.$$

$$131. c \quad \text{The difference} = \frac{(60 - 15)}{360} \times 4800 = 600.$$

$$132. a \quad \text{The percentage} = \frac{90 \times 40}{360} = 10.$$

133. d On the basis of the given information, this question cannot be answered.

134. c Let the total units of work be LCM (20, 24) i.e. 120. Therefore, number of units completed by Amit and Sumit per day will be 6 and 5 respectively.

∴ Total units of work done in first 2 days = 6 + 5 = 11

Therefore, total units of work done in first 20 days

$$= 11 \times 10 = 110$$

Number of days taken to complete the remaining units

$$= \frac{5}{5} + \frac{5}{6} = 1\frac{5}{6}$$

Hence, the number of days = $20 + 1\frac{5}{6} = 21\frac{5}{6}$ days.

135. c Numbers that are the multiples of 9 have their digital sum as 9.

There are 12 multiples of 9 between 95 and 200, so option (c) is the correct answer.

136. c ${}^n C_r = 28 \Rightarrow n = 8$ and $r = 2$ or 6

and ${}^n C_m = 56 \Rightarrow n = 8$ and $m = 3$ or 5

Hence, the maximum value of $r \times m = 6 \times 5 = 30$.

137. d Let the cost price of a cat and a dog be ₹x and ₹y respectively.

According to the question,

$$x + 2y = 7000 \quad \dots(i)$$

$$2x + 3y = 10000 \quad \dots(ii)$$

On solving (i) and (ii), we get $x = -1000$ and $y = 4000$

Since cost price cannot be negative, the data given in the question is inconsistent.

138. b Let the usual speed (in km/min) and usual time (in minutes) be s and t respectively.

$$\therefore s \times t = 0.8s \times (t + 10)$$

$$\Rightarrow t = 40 \text{ min}$$

Let the required time (in minutes) be x.

$$\therefore s \times 40 = \frac{8}{5}s \times (40 - x)$$

$$\Rightarrow x = 15.$$

139. c In order to make a profit of 100%, quantity of wine in the resultant mixture should be twice of the initial quantity, which means ratio of wine and water in the resultant mixture will be 1 : 1.

Let the required percent be k.

$$1 \times \left(\frac{100 - k}{100} \right) + 3 \times \left(\frac{k}{100} \right) = 1$$

$$\therefore \frac{1 \times \left(\frac{100 - k}{100} \right) + 1 \times \left(\frac{k}{100} \right)}{3 \times \left(\frac{100 - k}{100} \right) + 1 \times \left(\frac{k}{100} \right)} = \frac{1}{1}$$

$$\Rightarrow k = 50.$$

140. c Let the time (in hrs) taken by the second train to reach the point M be t.

$$\therefore 45 \times \frac{1}{3} + (45 + 90) \times t = 120$$

$$\Rightarrow t = \frac{7}{9}$$

Hence, the distance = $45 \times \left(\frac{1}{3} + \frac{7}{9} \right)$
 = 50 km.

141. d Let the number be x.

$$\therefore x^2 + \frac{1}{x} = 3\left(x^2 - \frac{1}{x}\right) \text{ or } x^2 + \frac{1}{x} = 3\left(\frac{1}{x} - x^2\right)$$

$$\Rightarrow x^3 + 1 = 3x^3 - 3 \text{ or } x^3 + 1 = 3 - 3x^3$$

$$\Rightarrow x = \sqrt[3]{2} \text{ or } x = \sqrt[3]{\frac{1}{2}}$$

Hence, no rational value of the number is possible for the given condition.

142. a Let the required number of days be x.

$$\therefore \frac{x+4}{24} + \frac{x}{36} = 1$$

$$\Rightarrow x = 12.$$

143. c Slope of the given line $(2x + 7y = 15) = \frac{-2}{7}$

$$\text{Slope of the required line} = \frac{7}{2} \quad (\because m_1 m_2 = -1)$$

Hence, the equation of the line will be

$$y - 3 = \frac{7}{2}(x + 2) \Rightarrow -7x + 2y = 20.$$

144. c According to the question,

$$\frac{y}{12} + \frac{x}{10} + \frac{y-x}{15} = 1$$

$$\Rightarrow 9y + 2x = 16 \quad \dots(i)$$

$$\text{Also, } y \text{ (integer)} > x \quad \dots(ii)$$

On combining (i) and (ii), we get $y = 6$ and $x = 3$.

Hence, the integral value of y is 6.

145. b Let the distance be LCM (2, 4, 5) i.e. 20 units.

Therefore, the respective ratio of the time taken by them = 10 : 5 : 4.

$$\text{Hence, the ratio} = \frac{10}{2} : \frac{5}{4} : \frac{4}{5} = 100 : 25 : 16.$$

146. b Let the prime number be p.

It is given that:

$$2N - 9 = p$$

$$\Rightarrow N = \frac{p+9}{2} \quad \dots(i)$$

As there are 15 values of p (prime numbers) between 1 and 50, but the first prime number i.e. 2 will not satisfy (i), hence the number possible value of N will be 14.

147. b $S_A : S_B = 100 : 80 = 5 : 4 \quad \dots(i)$

and $S_B : S_C = 100 : 80 = 5 : 4 \quad \dots(ii)$

On combining (i) and (ii), we get,

$$S_A : S_B : S_C = 25 : 20 : 16 = 100 : 80 : 64$$

Hence, in the race A beats C by 36 m.

148. c Let the three terms of the arithmetic progression be $(a - d)$, a and $(a + d)$.

$$\therefore a - d + a + a + d = 30$$

$$\Rightarrow a = 10$$

$$\text{Also, } (a - d) \times a \times (a + d) = 750$$

$$\Rightarrow 10^2 - d^2 = 75$$

$$\Rightarrow d = 5 \text{ or } -5$$

$$\text{Hence, } t_5 = 10 + 3 \times 5 \text{ or } 10 + 3 \times (-5)$$

$$\Rightarrow t_5 = 25 \text{ or } -5$$

149. c Volume of a brick = 60 cm^3

Volume of the pit = 300000 cm^3

$$\text{Hence, the number of bricks} = \frac{300000}{60} = 5000.$$

150. a Let the salary of C is ₹x.

$$\therefore \text{Salary of B} = \frac{5}{4}x$$

$$\text{and Salary of A} = \frac{6}{5} \times \frac{5}{4}x = \frac{3}{2}x$$

$$\text{Hence, the percentage} = \frac{\frac{3}{2}x - x}{\frac{3}{2}x} \times 100 = 33.33.$$