



SAMPLE PAPER

FOR

***NTSE* STAGE -II**

For

Answer-Key & Solutions

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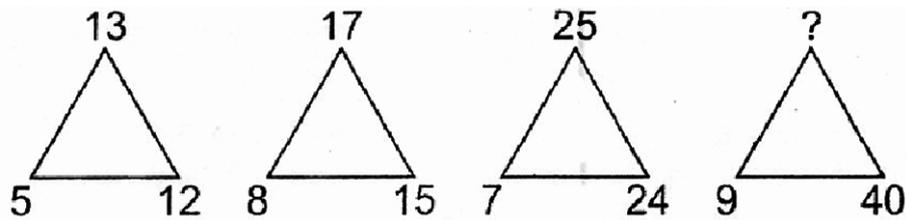
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MENTAL ABILITY" (STAGE-II)"**[SINGLE CORRECT CHOICE TYPE]****Q.1 to Q.100 has four choices (A), (B), (C), (D) out of which ONLY ONE is correct.**

1. Here are some words translated from an artificial language
'mie pie' is 'blue light'
'mie tie' is 'blue berry'
'aie tie' is 'rasp berry'
Which words could possibly mean "light fly"?
(A) pie zie (B) pie mie
(C) aie zie (D) aie mie
2. If in certain code, STUDENT is written as RSTEDMS, then how would TEACHER be written in the same code ?
(A) SZZDGEQ (B) SZDDGEQ
(C) SDZDGDQ (D) SDZCGDQ
3. Which group of letters is different from others ?
(A) CBAED (B) IJHGK
(C) SRQPT (D) TVWYZ
4. In the following letter sequence, some of the letters are missing. These are given in order as one of the alternatives below. Choose the correct alternative.
 $\alpha\beta_ \alpha\alpha_ \beta\beta\beta_ \alpha\alpha\alpha_ \beta\beta$
(A) $\alpha\beta\beta\alpha$ (B) $\beta\alpha\beta\alpha$
(C) $\alpha\alpha\alpha\beta$ (D) $\alpha\beta\alpha\beta$
5. Fill in the missing number.

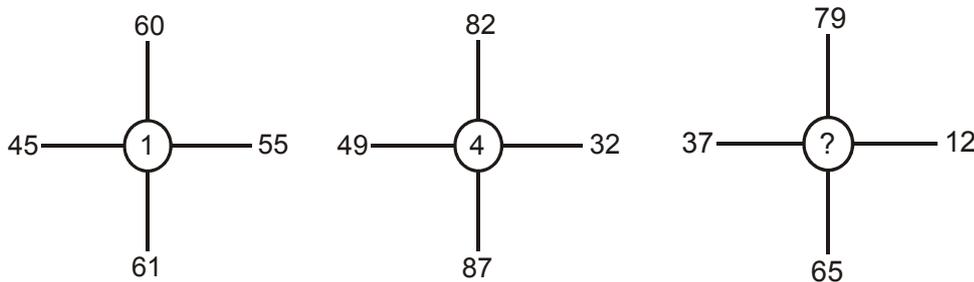
(A) $-3C$ (B) $-2C$ (C) $3C$ (D) $2B$
6. Vimla used to board the train from Metro Station A for going to her office. Since Station A is a terminus. she had no problem in getting a seat. Ever since she shifted to Locality B she finds it difficult to get a seat, as by the time the train reaches Locality B it becomes crowded. Find the statement among the alternatives which must be true as per the given information.
(A) Vimla would prefer to take a bus rather than the metro
(B) Vimla's travel to office has become less comfortable ever since she has shifted.
(C) Commuters staying in and around Locality B would demand metro services originating from station near Locality B.
(D) Vimla would look for a job close to her home.

7. Ramesh started going for regular morning walks for controlling his blood sugar level. He did so for a month and also started taking Yoga lessons, without going for any pathological examination. He underwent pathological test after two months and found that the blood sugar level has come down. Presuming that he had no changed his food habits during these two months, which statement among the alternatives given below follows most logically ?
- (A) Blood sugar level comes down after doing regular morning walk.
 (B) Blood sugar level comes down after doing Yoga.
 (C) Blood sugar level comes down on doing regular morning walk and Yoga
 (D) Regular morning walk, Yoga or both may bring down sugar level despite not changing food habits.
8. Find the number in the position of '?'.



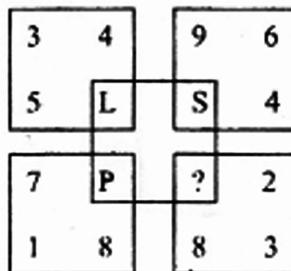
- (A) 41 (B) 45 (C) 50 (D) 52

9. Identify the number in the position of '?'



- (A) 2 (B) 3 (C) 5 (D) 6

10. Find the next number in the sequence 0, 2, 24, 252 . _____
 (A) 620 (B) 1040 (C) 3120 (D) 5430
11. Find the next number in the sequence 6, 24, 60, 120 _____
 (A) 180 (B) 210 (C) 240 (D) 360
12. Find the letter to be placed in place of '?' in the figure given.

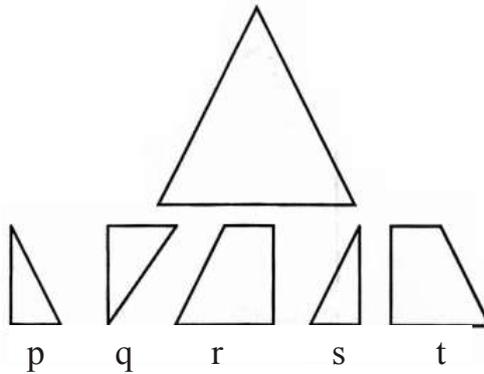


- (A) M (B) N (C) Q (D) R

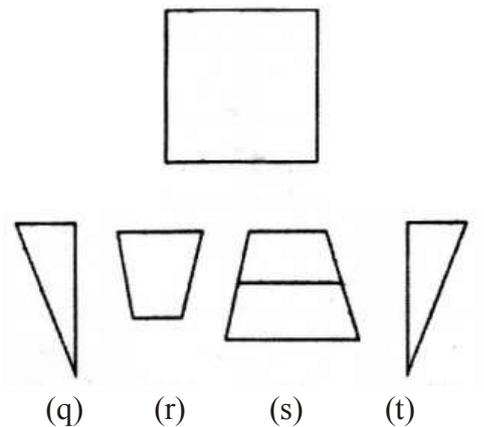
13. In this multiplication question the five letters represent five different digits. What are the actual figures ? There is no zero.

$$\begin{array}{r} \text{SEAM} \\ \text{---T} \\ \hline \text{MEATS} \end{array}$$

- (A) M = 3, E = 9, A = 7, T = 4, S = 8
 (B) M = 3, E = 9, A = 7, T = 8, S = 4
 (C) M = 4, E = 3, A = 9, T = 7, S = 8
 (D) M = 4, E = 9, A = 3, T = 7, S = 8
14. Identify which among the pieces given below will not be required to complete the triangular pattern shown below.

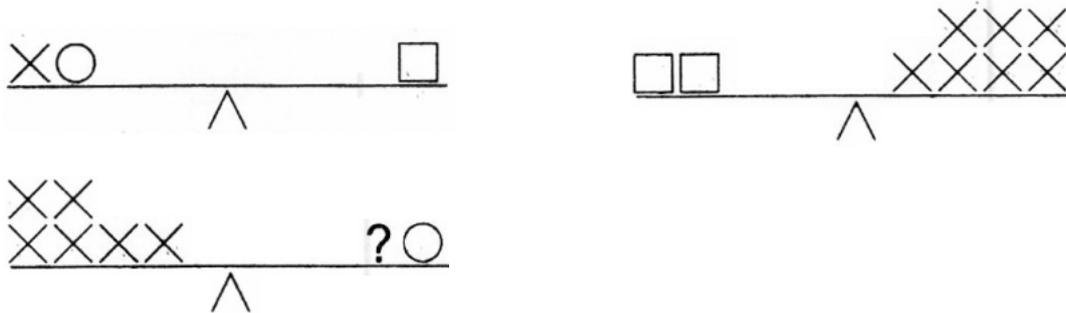


- (A) q (B) r (C) s (D) t
15. Find the missing number in the series
 2, 10, 26, _____, 242
 (A) 80 (B) 81 (C) 82 (D) 84
16. A pattern is given below. You have to identify which among the following pieces will not be required to complete the pattern.



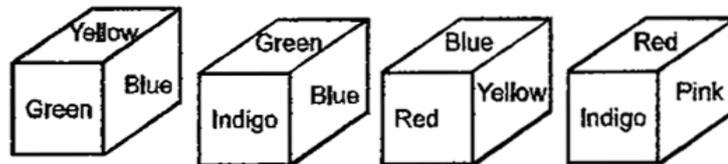
- (A) q (B) r (C) s (D) t

17. Which symbol replaces the '?'. Figure below represent a balance.



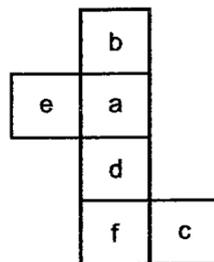
- (A) (B) (C) (D)

18. On the basis of the four positions of a dice given below find the colour of the face opposite 'Yellow'.



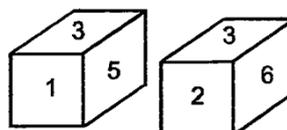
- (A) Indigo (B) Red (C) Pink (D) Blue

19. If the given figure is folded a form a box, which among the boxes below will be formed ?



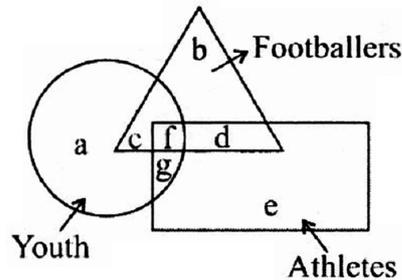
- (A) (B) (C) (D)

20. Two positions of a dice are shown. Which number will appear on the face opposite the one having 5 ?

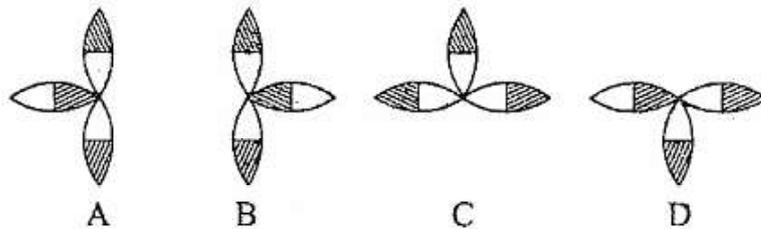


- (A) 1 (B) 2 (C) 4 (D) 6

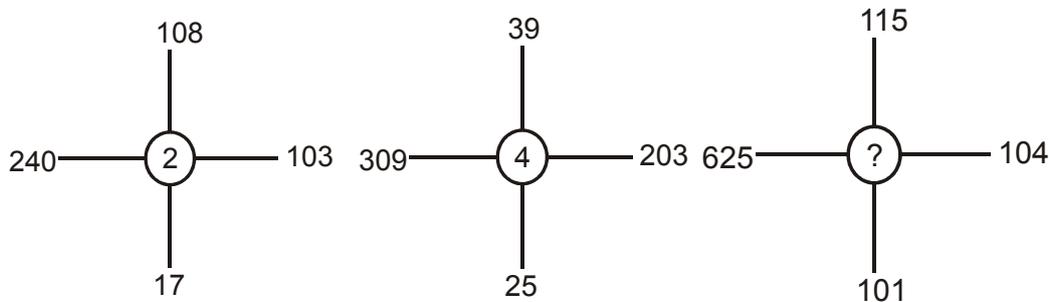
21. In the figure, the circle represents youth, the triangle represents footballers and the rectangle represents athletes. Which letter (s) represent(s) athletes among youths who are not footballers ?



- (A) g (B) g and c (C) f (D) f and d
22. Find the odd man out.



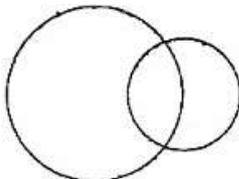
- (A) A (B) B (C) C (D) D
23. Identify the number corresponding to the ‘?’

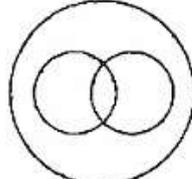
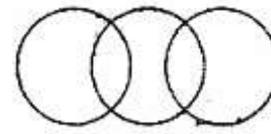


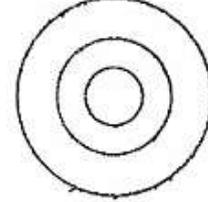
- (A) 3 (B) 5 (C) 7 (D) 81.
24. Which of the given alternative is the mirror image of REASON, if the mirror is placed below the word ?



25. A sprinter goes off the starting block for 100 m run and at that instant the second-hand of a stopwatch had pointed towards North. He touches the finishing line exactly after 12 seconds. In which direction did the second hand point when he just crossed the finishing line ?
- (A) 18° North of East (B) 18° East of North (C) 72° North of East (D) 82° East of North

26. Two candles are of different lengths and thicknesses. The short and the long ones can burn respectively for 3.5 hour and 5 hours. After burning for 2 hour, the lengths of the candles become equal in length. What fraction of the long candle's height was the short candle initially ?
- (A) $\frac{2}{7}$ (B) $\frac{5}{7}$ (C) $\frac{3}{5}$ (D) $\frac{4}{5}$
27. Mother was asked how many gifts she had in the bag. She replied that there were all dolls but six, all cars but six, and all books but six. How many gifts had she in all ?
- (A) 9 (B) 18 (C) 27 (D) 36
28. Question given below has a problem and two statements I & II. Decide if the information given in the statement is sufficient for answering the problem:
- K, R, S and T are four players in Indian Cricket team. Who is the oldest among them?
- I : The total age of K & T together is more than that of S
- II : The total age of R & K together is less than that of S.
- (A) Data in statement I alone is sufficient (B) Data in statement II alone is sufficient
- (C) Data in both statements together is sufficient (D) Data in both statement together is not sufficient
29. Which of the following diagram/sets indicate the relation between women, mothers and parents ?
- (A) 

(B) 
- (C) 

(D) 
30. In a diary, there are 60 cows and buffalos. The number of cows is twice that of buffalos. Buffalo X ranked seventeenth in terms of milk delivered. If there are 9 cows ahead of Buffalo. X, how many buffalos are after in rank in terms of milk delivered ?
- (A) 10 (B) 11 (C) 12 (D) 13

31. What is the mirror image of

b3k4s 

- (A)  (B)  (C)  (D) 

Direction(32-36): Question 32 to 36 are based on the following information:

$\alpha, \beta, \gamma, \delta \in \phi, \Psi, \eta$ are sitting on a merry-go-round facing at the centre. δ is second to the left on η who is third to the left of α, β is fourth to the right of γ who is immediate neighbour of η, Ψ is not a neighbour of β , or γ, ϕ is not a neighbour of β

32. Who is third to the left of ? ?
 (A) α (B) γ (C) ϕ (D) Ψ
33. In which of the following pairs is the first person sitting to the immediate right of the second person ?
 (A) δ, Ψ (B) β, ϵ (C) η, β (D) Ψ, η
34. What is ϕ 's position with respect to Ψ
 (A) Third towards right (B) Third towards left
 (C) Second towards right (D) Second towards left
35. Who is sitting between α and β
 (A) Both ϵ and η (B) Both ϕ and δ (C) Only ϵ (D) Only ϕ
36. How many of them are sitting between γ and β
 (A) 0 or 6 (B) 1 or 5 (C) 2 or 4 (D) 3
37. In a school 120 boys have registered for a singles carom tournament. Each match eliminates one player. How many matches are to be organized to determine the champion ?
 (A) 60 (B) 61 (C) 119 (D) 120
38. Amongst five friends, Lata, Alka, Rani, Asha and Sadhana. Lata is older than only three of her friends. Alka is younger to Asha and Lata. Rani is older than only Sadhana. Who amongst them is the eldest ?
 (A) Asha (B) Lata (C) Alka (D) Sadhana
39. Twenty four teams are divided into 4 groups of six teams each. Within each group the teams play each other exactly once. The winners of each group then play in the semi-finals. Winners of the semi-finals play in the finals and losers for the 3 place. How many matches are played?
 (A) 60 (B) 63 (C) 64 (D) 66

Direction(40-41): Take the given statement(s) as true and decide which of the conclusion logically follows from the statements.

40. **Statement:**

All Actors are Musicians.
 Some Singers are Dancers.

No Musician is a Singer.
 Some Dancers are Musicians.

Conclusions :

I : Some Actors are Singers

II : Some Dancers are Actors

III : No Actor is a Singer

(A) Only conclusion I follows.

(B) Only conclusion III follows.

(C) Exactly one of conclusion I, III follows.

(D) Only conclusion II follows.

41. **Statement :**

All Clocks are Alarms.
 All Cuckoos are Alarms.

No Clocks are Cuckoos.
 Some Cuckoos are Birds.

Conclusion :

I : Some Alarms are Birds.

II : No Clock is a Bird

III : All Birds are Alarms

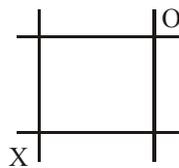
(A) Only conclusion I follows.

(B) Only conclusion II follows.

(C) Only conclusion III follows.

(D) Both conclusions II and III follow

42. Two players X and O play a game of “noughts and crosses” on a 3×3 grid. The purpose of the game is for a player to get 3 symbols belonging to the player in a straight line (vertically, horizontally or diagonally). Each player marks one symbol on his or her turn. After two moves (1 turn each), the grid looks as follows with X to play next. Where should X put his symbol next so that he will always win this game finally regardless of how well O plays?



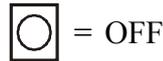
(A) Bottom row right corner

(B) Bottom row middle cell

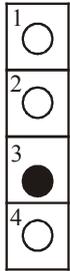
(C) Middle row left most cell

(D) It is not possible to always ensure X wins if O plays carefully

43. An electrical circuit for a set of 4 lights depends on a system of switches A, B, C and D. When these switches work they have the following effect on the lights: They each change the state of two lights (i.e. on becomes off and off becomes on). The lights that each switch controls are as follows.



In configuration 1 shown below, switches CBDA are activated in turn, resulting in configuration 2. One switch did not work and had no effect at all. Which was that switch?



Configuration-1

(A) A

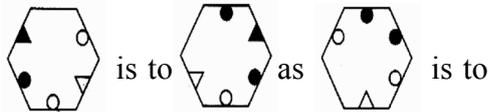


Configuration-2

(C) C

(D) D

- 44.



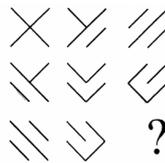
(A)

(B)

(C)

(D)

45. Complete the pattern.



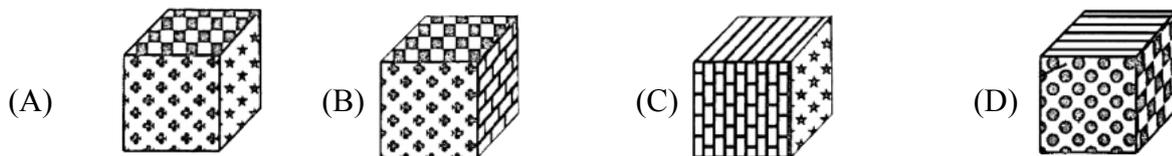
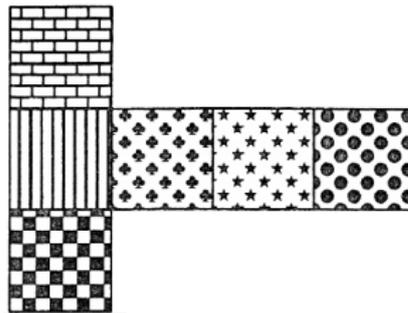
(A)

(B)

(C)

(D)

46. A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting next to E, who is sitting on the left end of the bench. C is on the second position from the right. A is to the right of B and E. Counting from the left, in which position is A sitting?
 (A) 2 (B) 3
 (C) 5 (D) Cannot be determined from the given conditions
47. I left home for bringing milk between 7am and 8am. The angle between the hour-hand and the minute-hand was 90° . I returned home between 7 am and 8 am. Then also the angle between the minute-hand and hour-hand was 90° . At what time (nearest to second) did I leave and return home?
 (A) 7h 18 m 35s & 7h 51m 24s (B) 7h 19m 24s & 7h 52m 14s
 (C) 7h 20m 42s & 7h 53m 11s (D) 7h 21m 49s & 7h 54m 33s
48. I left home at 3:00pm and returned at 3:48pm. The clock was rotated by 45° , so that when I left, the hour-hand of a clock was pointing along the south-east direction. In which direction would the hour-hand point when I returned?
 (A) 15° East of South (B) 21° East of South
 (C) 63° South of East (D) 27° South of East
49. When the above is folded into a cube, which is the only cube that can be produced amongst the following



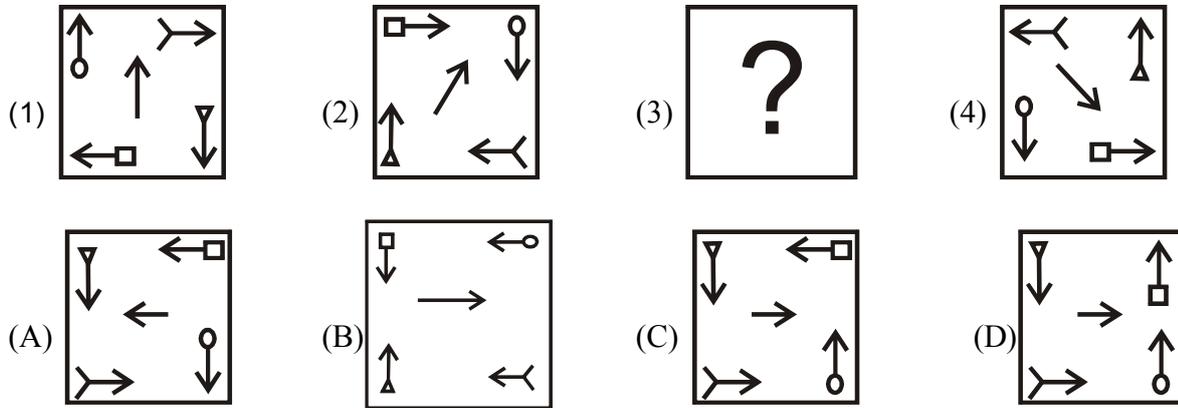
50. What will be water image of **CHICK** ?
 (A) CHICK (B) CHIKX (C) KCIHC (D) XCIHC
51. Complete the series:
 D3Y104, G9U91, J27Q78, M81M65
 (A) P243I39 (B) Q243I52
 (C) P243I52 (D) Q162J39
52. Which of the following can replace the question mark?
 (A) 0.0064 (B) 0.0016
 (C) 0.000064 (D) 0.000016

Directions(53–55): There are eight people A, B, C, D, E, F, G and H sitting around a circular table facing centre.

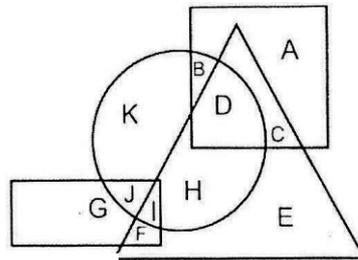
B is sitting second to the left of G who is sitting third to the right of F. Only E is sitting between A and C. C is sitting third to the left of B. Only one person is sitting between E and H.

53. Which of the following is correct?
- (A) D is sitting third to the left of H (B) F is sitting third to the left of G
(C) C is sitting third to the left of D (D) H is sitting second to the right of C
54. Based on the given information, which of the following is the correct position?
- (A) A and C are sitting next to each other (B) F and G are sitting next to each other
(C) H and F are sitting next to each other (D) D is sitting next to H
55. Which of the following is the correct order of sitting of persons right of A?
- (A) E C H D G B F (B) E C H F B D G
(C) E B H D C F G (D) C H B E D G F
56. Amita is standing at Point A facing north direction. She walks for 5 kilometers in the north east direction. Then she turns at an angle of 90° at her right and once again travels the same distance. She reaches at Point B. Now she takes a turn at 90° to her left and walks for 3 kilometers and once again takes right turn at 90° and travels 3 kilometers and reaches at Point C. What is the direction of Point B and C respectively with respect to Point A?
- (A) East, East (B) East, North east
(C) North east, East (D) North east, North east
57. In the question given below, there are three statements followed by three conclusions numbers I, II and III. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions, and then decide which of the given conclusions (s) logically follows from the given statements disregarding commonly known facts.
- Statements:** All teachers are professors.
 No professor is male.
 Some males are designers.
- Conclusions:** I. No designer is professor.
 II. Some designers are professors.
 III. No male is teacher.
- (A) Only III follows (B) Both I and II follows
(C) Either I or II follows (D) Either I and II and III follows

58. In the following question, there are four figures (1),(2),(3) and (4) called problem figures. (1) and (2) are related in the same way as (3) and (4) are related. Which figure out of four given options will come in place of figure (3)?



59. In the following figures, square represents professors, circle represents males, triangle represents cricketers and rectangle represents trainers. On the basis of information given in the above diagram, which of the following is correct?

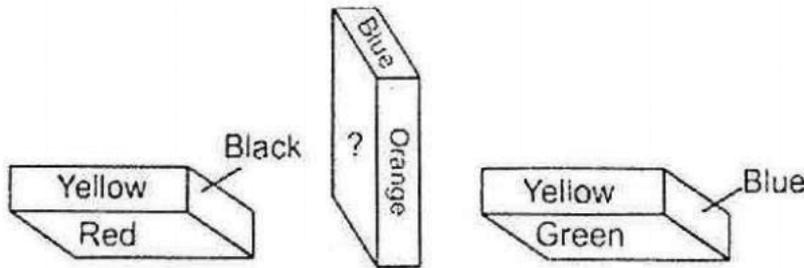


- (A) C represents male professors who are cricketers too
- (B) I represents male trainers who play cricket
- (C) B represents male professors who are trainers
- (D) F represents male trainers who are not cricketers

Directions(60–62): : Five periods of Hindi, English, Science, Mathematics and Sanskrit are to be taken by five different teachers A, B, C, D and E in five different periods 1, 2, 3, 4 and 5. Each teacher will teach only one subject and takes only one period. Science is not the 3rd period. 5th period is taken by D who does not teach Hindi or Sanskrit. A takes 3rd period. The one who teacher Sanskrit takes 4th period. There are two periods after and two periods before Mathematics period. Hindi period is between Science and Mathematics period. B teaches Science. E takes period just before D's period. After reading the above information, answer the following questions.

60. Who teaches Hindi and in which period?
- (A) C teaches Hindi in 2nd period
 - (B) E teaches Hindi in 1st period
 - (C) C teaches Hindi in 4th period
 - (D) Data is inadequate

61. Which of the following is the correct sequence of subject period teacher?
 (A) Mathematics – 3 – D (B) Sanskrit – 4 – E
 (C) Mathematics – 2 – A (D) Hindi – 2 – E
62. The subject taught by teachers A, B, C, D and E respectively are
 (A) Mathematics, Science, Hindi, Sanskrit, English
 (B) Mathematics, Science, English, Hindi, Sanskrit
 (C) Mathematics, Hindi, English, Sanskrit, Science
 (D) Mathematics, Science, Hindi, English, Sanskrit
63. A cuboid is painted in 6 colours, i.e., red, green, blue, yellow, orange and black, one colour on each side. Three position are shown below: What is the colour of the side having question mark?



- (A) Red (B) Yellow (C) Green (D) Blue
64. If \times stands for $+$, \div stands for $-$, $+$ stands for \div and $-$ stands for \times , then what is the value of following expression?
 $\div 33 \times 11 \div 9 \times 28 + 4 - 5$
 (A) 16 (B) 8 (C) 4 (D) 2
65. If REASON is coded as PGYUMP, then DIRECT will be coded as?
 (A) BKPGAV (B) FKTGEV
 (C) FGT CER (D) BGPCAR
66. Read the information carefully and answer the following question. A family has husband, wife and three children A, B and C. The present age of husband is 5 years more than the wife's present age. Wife's present age is twice the present age of A. The present age of A is 12 years more than the present age of B. B's present age is $1\frac{1}{2}$ times the present age of C. If C is 12 years old at present. What is the present age of husband's friend Ram who is 15 years younger than husband (him)?
 (A) 30 years (B) 50 years (C) 60 years (D) 80 years

Directions(67–68): Pritam, Zeba, Joy and Anu were assigned duties in the English language alphabetical order of their names. Only one of them is assigned a duty on a day. This assignment is repeated in the same sequence. Working week starts from Monday and ends on Friday. Answer the following:

67. Who worked for least number of days and for how many days if the duties assigned for 3 weeks?
 (A) Anu, 3 days (B) Anu, 4 days
 (C) Zeba, 3 days (D) Zeba, 4 days
68. Who were assigned duties on Wednesday in 1st, 2nd and 3rd weeks respectively?
 (A) Pritam, Zeba, Anu (B) Pritam, Anu, Zeba
 (C) Pritam, Joy, Anu (D) Joy, Zeba, Anu
69. In a showroom, 60 percent discount is given to everybody on all the articles. The successive discount of 40 percent is offered to female students. If printed price of an article of Rs 1000/- is bought by a female student, how much she will have to pay for that article?
 (A) Inconclusive (B) Zero
 (C) Rs 160/- (D) Rs 240/-
70. From among the four alternatives given below, which number replaces the question mark?

4	5
2	5

 = 13

6	4
7	2

 = 15

9	3
4	5

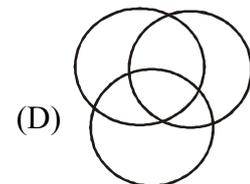
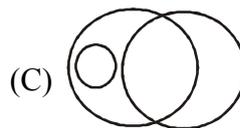
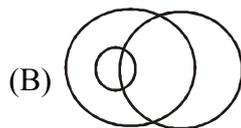
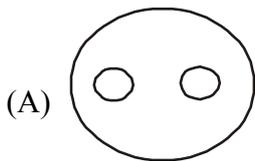
 = 18

8	3
4	6

 = ?

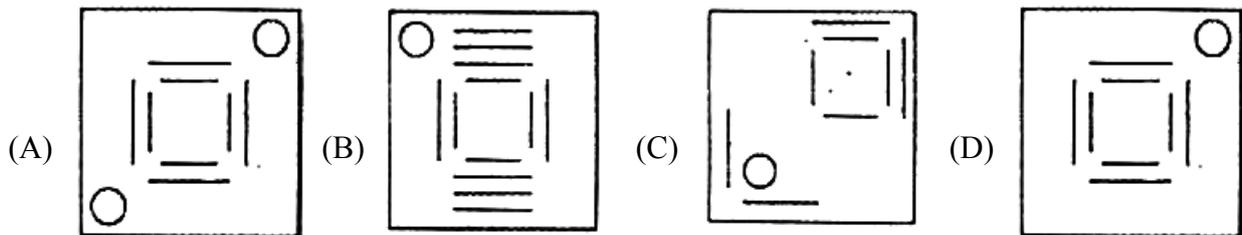
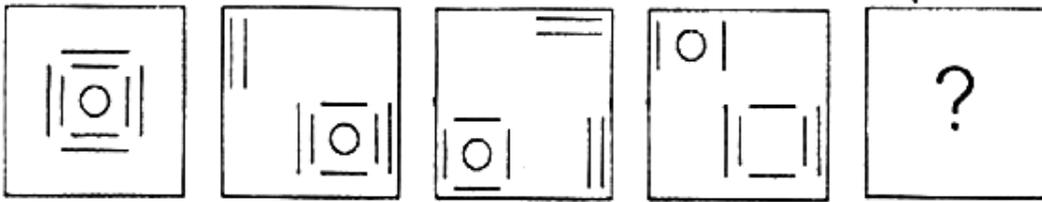
- (A) 11 (B) 14 (C) 16 (D) 17

71. Which of the following diagrams indicates the best relation among men, fathers and teachers?

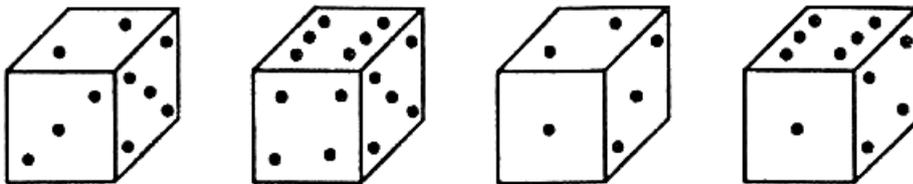


72. Guitar : Music : : Book : ?
(A) Pages (B) Writer
(C) Publisher (D) Knowledge
73. Reena, Rita and Zoha are three friends. Reena is the eldest followed by Rita and Zoha. Reena is 2 years elder to Rita and 5 years elder to Zoha. The sum of the present age of Reena and Zoha is 3 times the age of Rita 5 years ago. What is the current age of Rita?
(A) 12 years (B) 14 years (C) 16 years (D) 18 years
- Directions(74–76):**Lata was cutting a cuboid shaped cake at her birthday party which has 12 inches length, 8 inches breadth and 2 inches height. Two faces measuring 8 inches \times 2 inches are coated with chocolate cream. Two faces measuring 12 inches \times 2 inches are coated with vanilla cream. Two faces measuring 12 inches \times 8 inches are coated with butter scotch cream. The cake is cut into 24 cubes of size, 2 inches each side.
74. How many cake pieces are there which have only two types of coatings of cream (any two out of chocolate, vanilla and butter scotch)?
(A) 4 (B) 8 (C) 12 (D) 16
75. How many cake pieces will have only one type of coating of cream?
(A) 4 (B) 8 (C) 12 (D) 20
76. Kasim, Rajni, Pema and Gurpreet loved the chocolate cream and they decided to take all pieces with chocolate coating for them. How many cake pieces will be available for others?
(A) 8 (B) 12 (C) 16 (D) 20
77. During her morning walk in the park, Tanya saw Monica coming from the opposite direction. They greeted each other and had a face to face chatting. If Monica's shadow was to the right of Tanya, then which direction was Monica facing?
(A) North (B) East
(C) West (D) South
78. Given below is a question and two statements I and II. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both statements carefully and give the answer.
Question: A, B, C, D and E are sitting in a row, not in that order. A is sitting next to E. Is E sitting between A and C?
Statements:
I. B and D are sitting at the two ends of the row.
II. C is not sitting next to A.
(A) I alone is sufficient (B) II alone is sufficient
(C) Both I and II together (D) Both I and II together are not sufficient

79. A person needs to find the fastest two horses from 16 horses. Only a race of 4 horses can be conducted at a time. What is the minimum number of races to be conducted to determine the fastest two? Assume that horses will not get tired at all, and time cannot be measured.
 (A) 6 (B) 7 (C) 8 (D) 15
80. Which letter replaces the question mark?
 b c e g k ? q s
 (A) i (B) m (C) n (D) o
81. From among the four alternatives given below, which figure replaces the question mark?



82. How many points will be on the face opposite to the face which contains 2 points?



- (A) 1 (B) 5 (C) 4 (D) 6
83. Identify the missing number in the following sequence.
 2, 10, 30, 68, ____, 222
 (A) 120 (B) 130 (C) 134 (D) 150
84. $A + B$ means A is the daughter of B, $A \times B$ means A is the son of B and $A - B$ means A is the wife of B. If $T - S \times B - M$, which of the following is NOT true?
 (A) M is the husband of B (B) B is the mother of S
 (C) S is the daughter of B (D) T is the wife of S

85. In the question below, there are three statements followed by four conclusions numbered I, II, III and IV. You have to consider every given statement as true, even if it does not conform to the well known facts. Read all the conclusions and then decide which of the conclusions can be logically derived from the given

Statements:

All frogs are snakes.
 Some snakes are birds.
 All birds are apples.

Conclusions:

I. Some apples are frogs.
 II. No apple is frog.
 III. Some snakes are apples.
 IV. All birds are snakes.

(A) Either I or II; and III follows (B) III and IV follows
 (C) Either I or II follows (D) Either I or II; and either III or IV follows

86. In the following sequence, one number is wrong. Find the wrong number.

9, 23, 51, 106, 219, 443

(A) 23 (B) 51
 (C) 106 (D) 219

87. Which option shows the correct water image of the characters given below?

SUPE2547DLR

(A) 2UB3Z241DGB

(B) 2UdES241DGB

(C) 2UBES241DGB

(D) 2UBES241DGB

88. Ronald is elder to Veena while Amilia and Shree are elder to Parul who lies between Ronald and Amilia. If Amilia is elder to Veena, then which one of the following statements is necessarily true?

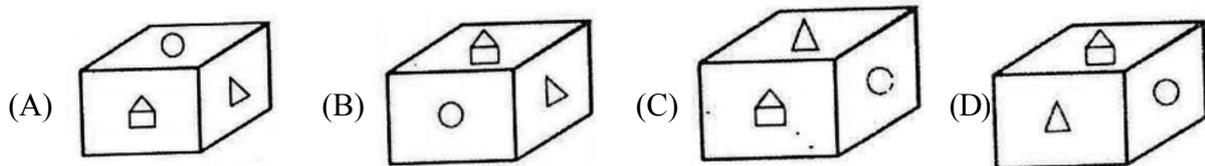
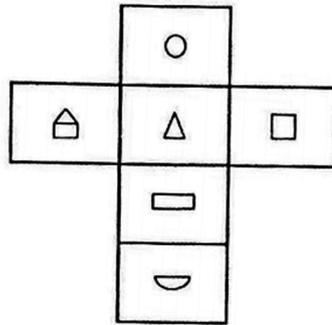
(A) Ronald is elder to Amilia (B) Amilia is elder to Shree
 (C) Parul is elder to Shree (D) Parul is elder to Veena

89. In the following question, a matrix of certain numbers is given. These numbers follow a certain trend, either row wise or column wise. Find the trend and choose the missing number from the given alternatives.

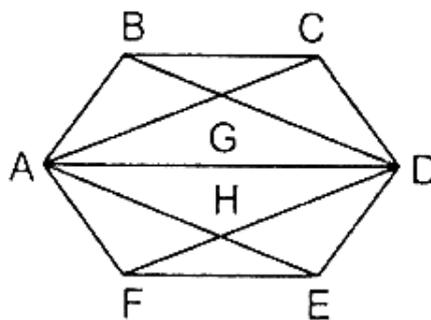
1	5	7	75
8	3	4	?
9	7	8	194

(A) 20 (B) 43 (C) 89 (D) 96

90. The figure given below is the unfolded position of a cubical dice. Select the option figure which is same as the figure, when it is folded



91. A wall clock is placed in a room. It chimes 8 times at 8 o'clock. A person 'X' present outside the room listens the 8 beats of chimes in 8 seconds. Assume that each chime of the wall clock takes equal time. To listen 11 chimes at 11 o'clock how much time will be required by person 'X'
- (A) 11 seconds (B) 11.43 seconds
(C) 12 seconds (D) 12.43 seconds
92. A geometrical design has been drawn below. Find out the total number of quadrilaterals.



- (A) 8 (B) 10 (C) 11 (D) 12

Directions(93–95): Study the following information and answer the questions given below it. Six boys Preme, Kamal, Ramesh, Shyam, Tarun and Umesh go to University Sports Center and play a different game of football, cricket, tennis, kabaddi, squash and volleyball.

- A. Tarun is taller than Prem and Shyam.
- B. The tallest among them plays kabaddi.
- C. The shortest one plays volleyball.
- D. Kamal and Shyam neither play volleyball nor kabaddi.
- E. Ramesh plays volleyball.
- F. If all six boys stand in order of their height then Tarun is in between Kamal and Prem; and Tarun plays football.

93. Who among them plays kabaddi?

- (A) Kamal
- (B) Ramesh
- (C) Shyam
- (D) Umesh

94. Who will be at fourth place if they are arranged in the descending order of their heights?

- (A) Prem
- (B) Kamal
- (C) Tarun
- (D) Shyam

95. Who plays tennis?

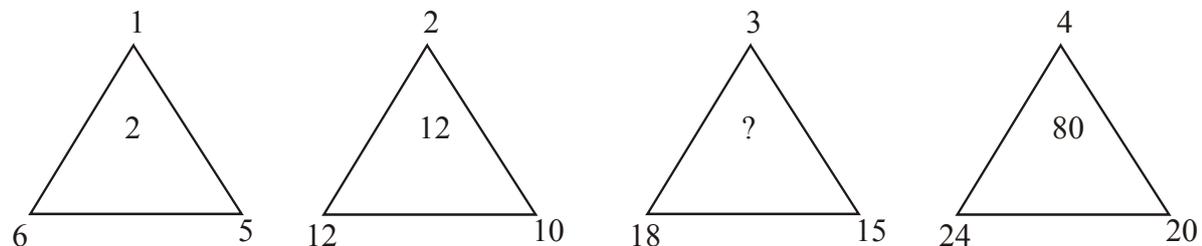
- (A) Kamal
- (B) Prem
- (C) Tarun
- (D) Information insufficient

96. What comes next in the following sequence of codes?

1218199, 1006480, 814963, 643648, _____

- (A) 366478
- (B) 1442560
- (C) 492535
- (D) 253634

97. What value replaces the question mark?



- (A) 18
- (B) 24
- (C) 36
- (D) 45

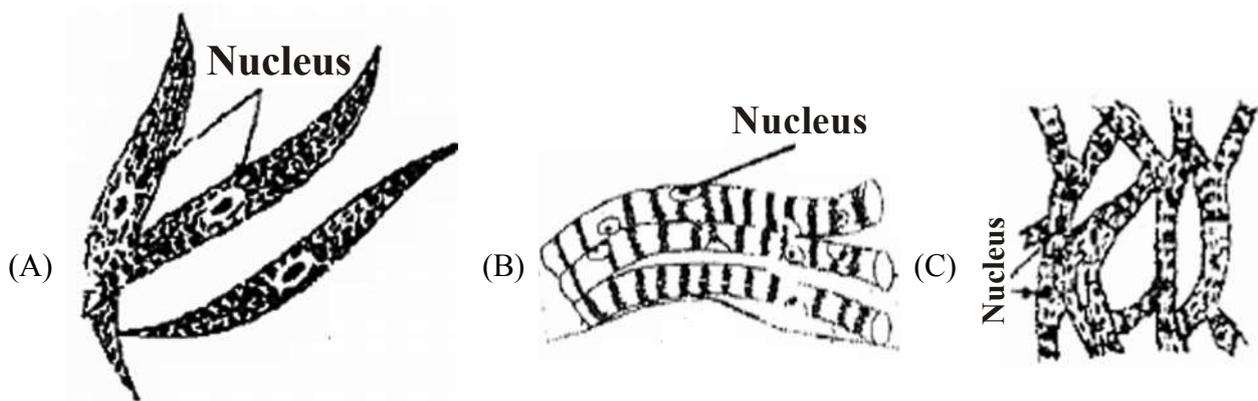
98. A coding language writes English words in the coded form as The code does not appear in the same order of the letters in the English words. On this basis, which of the following will be the code of the word TRAY?
- STAT $\theta \delta \theta \gamma$
RAT $\delta \theta \beta$
SAY $\varepsilon \gamma \delta$
- (A) $\varepsilon \beta \theta \gamma$ (B) $\beta \gamma \delta \varepsilon$ (C) $\beta \theta \delta \varepsilon$ (D) $\theta \delta \gamma \varepsilon$
99. A work is expected to be completed by 20 workers in 25 days. The work is started by 10 workers. Then, after every 5 days, 5 more workers join the work. In how many days the work be completed?
- (A) 20 (B) 25 (C) 30 (D) 35
100. Find the maximum length of a rod with negligible thickness which can be fitted into a cubical box of 1 meter length of each side.
- (A) $\sqrt{2}$ (B) $\sqrt{2.25}$ (C) $\sqrt{3}$ (D) 2

SCHOLASTIC APTITUDE TEST (STAGE-II)

[SINGLE CORRECT CHOICE TYPE]

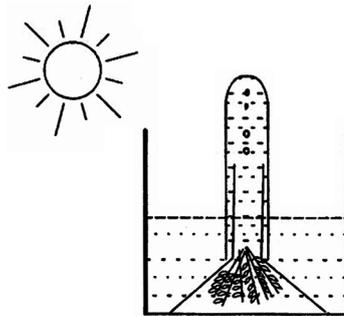
Q.1 to Q.100 has four choices (A), (B), (C), (D) out of which ONLY ONE is correct.

- An animal cell, a plant cell and a bacterium share the following structural features :
 (A) Cell membrane, endoplasmic reticulum, vacuoles
 (B) Cell wall, plasma membrane, mitochondria
 (C) Cell wall, nucleus, cytoplasm
 (D) Plasma membrane, cytoplasm, ribosomes
- Given below are figures of three kinds of muscle fibres.
 Which one/ones would you find in the grass hopper's legs ?



- (A) A only (B) B only (C) A and C (D) B and C
- A plant that has well differentiated body, special tissues for transport of water and other substances, but does not have seed or fruits is a(n):
 (A) Bryophyte (B) Angiosperm (C) Gymnosperm (D) Pteridophyte
 - Raju was suffering from severe stomach pain and the doctor diagnosed that he was suffering from peptic ulcers and treated him with antibiotics. He was relieved of pain. What could be the reason for peptic ulcers?
 (A) Reduced secretion of hormones. (B) Reduced water content.
 (C) Growth of Helicobacter pylori. (D) Excess secretion of enzyme.
 - The average temperature of the Earth remains fairly steady as compared to that of the moon because of the
 (A) atmosphere (B) lithosphere (C) biosphere. (D) hydrosphere.
 - In flowers, which one of the following conditions will increase chances of self-pollination?
 (A) Pistil is longer than stamens in a flower
 (B) Stamens are just above the stigma of a pistil in a flower.
 (C) In all flowers of the plant only pistil is present.
 (D) In all flowers of the plant only stamens are present

7. Photosynthesis in an aquatic plant was measured by counting the number of O_2 bubbles coming out of the cut end of the plant. What will happen to O_2 production if you use a pipe blow air from your mouth into water in the beaker?



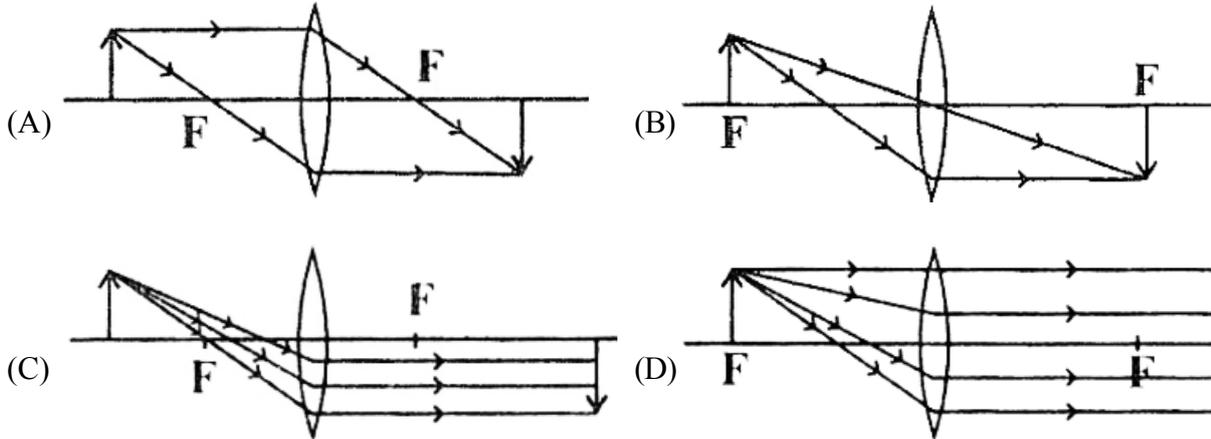
- (A) Air from mouth contains O_2 which is being added to the plant. Hence increase in O_2 production.
 (B) Air from mouth contains CO_2 which is utilized in photosynthesis. Hence increase in O_2 production.
 (C) Bacteria from mouth will infect plant. Hence reduction in O_2 production.
 (D) Water is already in contact with air. Hence air from mouth will have no effect.
8. A person with blood group 'A' can donate blood to the persons with blood group 'A' or 'AB' because it
- (A) has both 'A' and 'B' antigens. (B) has only 'A' antigen and 'B' antibodies.
 (C) has only 'B' antigen and 'A' antibodies (D) does not have any antigens and antibodies.
9. What would happen to the person if cerebellum of his brain is damaged?
- (A) He will lose his memory power.
 (B) He will not be able to swallow food properly.
 (C) He will be unable to coordinate and stand properly.
 (D) He will lose his powers of vision and hearing.
10. Which of the following statements are correct?
- A. Tapeworms are hermaphrodites and undergo self-fertilization.
 B. Earthworms are hermaphrodites and undergo self-fertilization.
 C. Tapeworms are hermaphrodites but undergo cross-fertilization.
 D. Earthworms are hermaphrodites but undergo cross-fertilization
- (A) A and B (B) B and C (C) C and D (D) D and A

Direction (11 – 12) : A group of red beetles lives on green leaves of a tree. Beetles multiply through sexual reproduction. One day, some green beetles are seen among the red beetles. Green beetles breed to produce green progeny. Crows on the tree eat beetles.

11. Some green beetles appear among the red beetle because
(A) beetles become green by accumulating chlorophyll from the green leaves that they eat.
(B) natural variations occur during sexual reproduction.
(C) red beetles mimic green colour of leaves whenever they see crows.
(D) beetles change colour from red to green with change of season.
12. The colour composition of beetle population is likely to change in the following manner:
(A) Both red and green beetle survive equally.
(B) Only the red beetle survives.
(C) More red beetles survive than the green.
(D) More green beetles survive than the red
13. In the following food chain who gets less energy than the tertiary consumer ?
Grass → Grasshopper → Frog → Snake → Eagle
(A) Grasshopper (B) Frog (C) Snake (D) Eagle
14. Non-degradable and fat soluble pollutant, such as DDT enters the food chain, the pollutant
(A) magnifies in concentration at each trophic level.
(B) 'degrades at first trophic level.
(C) accumulates in the body fat of organism at first trophic level and does not pass to second trophic level.
(D) decreases in concentration at each trophic level.
15. A drop each of two non-corrosive and non-irritating liquids A and B at a temperature of 22°C are placed on the skin. Liquid A gives a more cooling sensation than liquid B. Which of the following can be said about the liquids A and B?
(A) Liquid A has higher boiling point than that of liquid B.
(B) Liquid A has higher latent heat of vaporisation than that of liquid B.
(C) Liquid A has lower latent heat of vaporisation than that of liquid B.
(D) The boiling points of liquid A and B are equal.
16. There is a mixture of three solid compounds A, B and C. Out of these compounds A and C are soluble in water and compound C is sublimable also. In what sequence the following techniques can be used for their effective separation?
- | | |
|---|----------------------------|
| I. Filtration | II. Sublimation |
| III. Crystallisation from water extract | IV. Dissolution in water |
| (A) (II), (I), (IV), (III) | (B) (IV), (I), (II), (III) |
| (C) (I), (II), (III), (IV) | (D) (II), (IV), (I), (III) |

23. A silvery white metal X reacts with water at room temperature to produce a water soluble compound Y and a colourless gas Z. The reaction is highly exothermic and the Z catches fire immediately during the reaction. The solution of Y in water on reacting with stoichiometric amount of dilute solution of hydrochloric acid gives a solution of pH = 7.0. The compounds X, Y and Z respectively are :
- (A) Al, Al(OH)₃ and H₂ (B) Ag, AgOH and H₂
 (C) K, KCl and H₂ (D) Na, NaOH and H₂
24. A compound X is obtained by the reaction of alkaline KMnO₃ with another compound Y followed by acidification. Compound X also reacts with compound Y in presence of few drops of H₂SO₄ to form a sweet smelling compound Z. The compound X Y and Z are respectively.
- (A) Ethanol, Ethene, Ethanoic acid (B) Ethanoic acid, Ethanol, Ethylethanoate
 (C) Ethanoic Acid, Ethanal, Ethene (D) Ethanol, Ethanoic Acid, Sodium Ethanoate
25. Which of the following pairs of compounds of carbon will undergo combustion as well as addition reactions.
- (A) CH₄ and C₂H₆ (B) C₂H₆O and C₃H₈O
 (C) C₂H₄O₂ and C₃H₆O (D) C₂H₂ and C₃H₆
26. An element X combines with hydrogen to form a compound XH₃. The element X is placed on the right side of the periodic table. What is true about the element X?
- (A) Has valence electrons (B) Is a metal and is solid
 (C) Is a non-metal and is a gas (D) Has a 5 valence electrons
 (E) XH₃ reacts with water to form a basic compound
- (A) A, B and C (B) B, C and D (C) C, D and E (D) E, A and B
27. An element X (atomic number 12) reacts with another element Y (atomic number 17) to form a compound Z. Which of the following statements are true regarding this compound?
- I. Molecular formula of Z is XY₂
 II. It is soluble in water
 III. X and Y are joined by sharing of electrons
 IV. It would conduct electricity in the molten state.
- (A) (II) and (III) (B) (I) and (III) (C) (I), (III) and (IV) (D) (II) and (IV)
28. A ship sends a sonar wave to the sea bed which is flat and measured several times over a large area, One day the reflected sound wave takes longer time than in previous measurements. The possible reason is:
- (A) the frequency of the sonar wave, generated by the equipment is lower than previous measurements.
 (B) there is a solid object of large size in the path of sonar wave.
 (C) there is a huge air bubble in the path of sonar wave.
 (D) the loudness of the sonar wave, generated by the equipment is lower than previous measurement.

29. Which of the following ray diagram is correct ?



30. A concave lens always gives a virtual image. In optical lenses worn by humans which of the following statements is true?

- (A) The lens can never be concave.
- (B) In some cases the lens can be concave if the focal length is much larger than 2.5 cm.
- (C) All focal length concave lenses are possible.
- (D) All focal length convex lenses are possible.

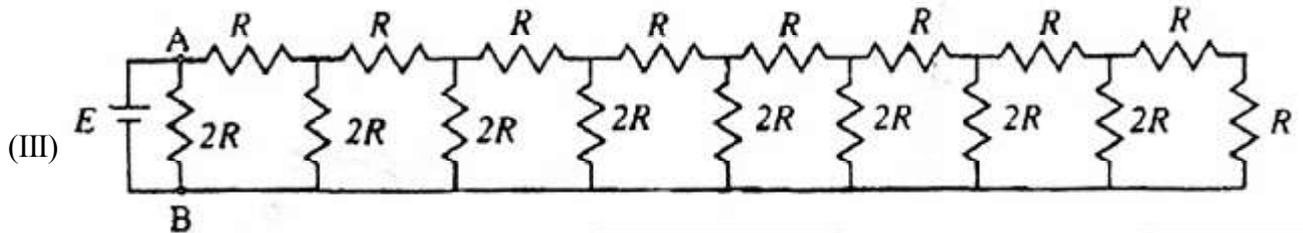
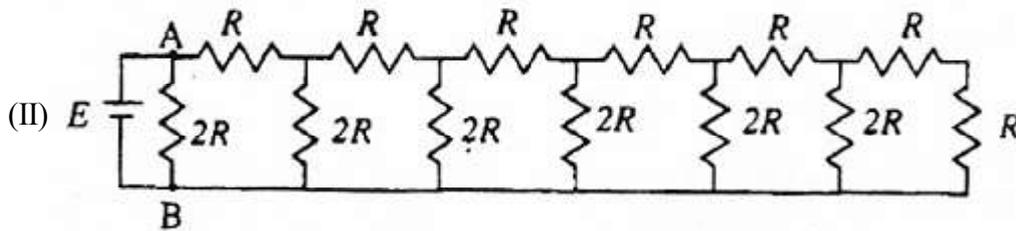
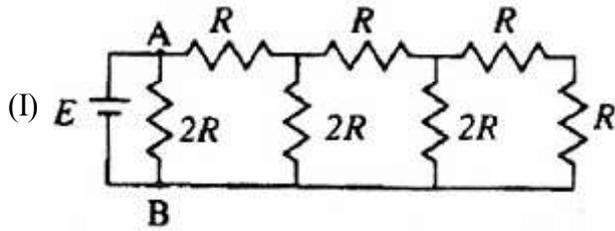
31. A geo-stationary satellite is orbiting around earth at height of 30,000 km in circular orbit. The radius of the earth is taken as 6000 km. The geo-stationary satellite comes back to its position after one revolution in exactly 24 hours. Let the acceleration due to gravity (g) be 10 m/s^2 and mass of satellite be 1000 kg; calculate the work done in 12 hours when moving under gravitational force.

- (A) $3.6\pi \times 10^{14} \text{ J}$ (B) $2\pi \times 7.2\pi \times 10^{14} \text{ J}$ (C) $1.8\pi \times 10^{14} \text{ J}$ (D) 0 J

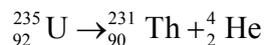
32. Consider a simple circuit containing a battery and three identical incandescent bulbs A, B and C. Bulb A is wired in parallel with bulb B and this combination is wired in series with bulb C. What would happen to the brightness of the other two bulbs if bulb A were to burn out?

- (A) Only bulb B would get brighter.
- (B) Both A and B would get brighter.
- (C) Bulb B would get brighter and bulb C would get dimmer.
- (D) There would be no change in the brightness of either bulb B or bulb C

33. Three different circuits (I, II and III) are constructed using identical batteries and resistors of R and $2R$ ohm. What can be said about current I in arm AB of each circuit?

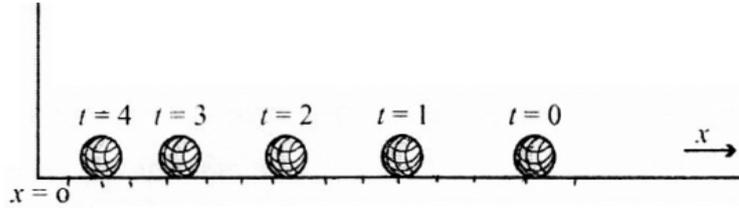


- (A) $III < II < III$ (B) $II < III < III$ (C) $II = III = III$ (D) $II > III = III$
34. A uranium nucleus at rest decays into a thorium nucleus and a helium nucleus, as shown below. Which of the following is true?



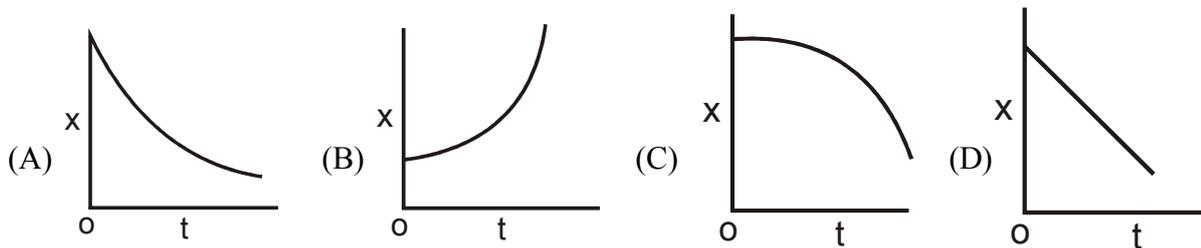
- (A) Each decay product has the same kinetic energy.
 (B) The decay products tend to go in the same direction.
 (C) The thorium nucleus has more momentum than the helium nucleus.
 (D) The helium nucleus has more kinetic energy than the thorium nucleus.

35. The figure below shows the position of a ball at $t = 0$, $t = 1$ s, $t = 2$ s, $t = 3$ s and $t = 4$ s :

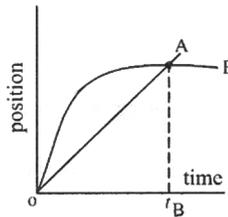


position of ball at five successive times

Which of the graph below is a possible graph of the position $x(t)$?

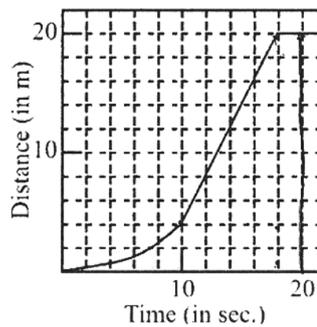


36. The graph shows position as a function of time for two trains A and B running on parallel tracks. For times greater than $t = 0$, which of the following statement is true ?



- (A) At time t_B , both trains have the same velocity.
- (B) Both trains speed up all the time
- (C) Both trains may have the same velocity at some time earlier than t_B .
- (D) Graph indicates that both trains have the same acceleration at a given time.

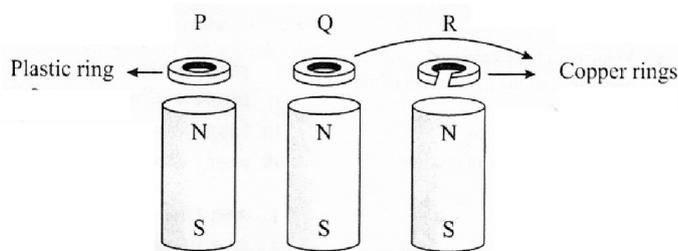
37. The figure shown below depicts the distance travelled by a body as a function of time.



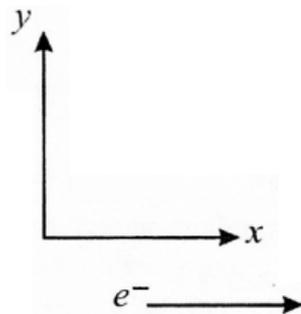
The average speed and maximum speed between 0 and 20 s are :

- (A) 1 m/s, 2.0 m/s respectively
- (B) 1 m/s, 1.6 m/s respectively
- (C) 2.0 m/s, 2.6 m/s respectively
- (D) 1.3 m/s, 2.0 m/s respectively

38. A hypothetical planet has density ρ , radius R , and surface gravitational acceleration g . If the radius of the planet were doubled, but the planetary density stayed the same, the acceleration due to gravity at the planet's surface would be :
 (A) $4g$ (B) $2g$ (C) g (D) $g/2$
39. Three rings P, Q and R are dropped at the same time over identical hollow magnets as shown below :



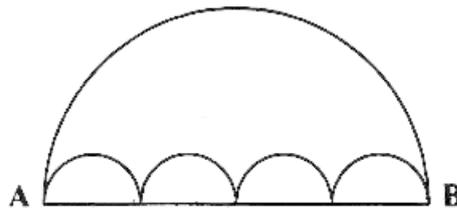
- Which of the following describes the order in which the ring P, Q and R reach the bottom of the magnet?
 (A) They arrive in the order, P, Q, R.
 (B) They arrive in the order P, R, Q
 (C) Rings P and R arrive simultaneously, followed by Q.
 (D) Rings Q and R arrive simultaneously, followed by P.
40. An electron moving with uniform velocity in x direction enters a region of uniform magnetic field along y direction. Which of the following physical quantity(ies) is (are) non-zero and remain constant ?



- (I) Velocity of the electron
 (II) Magnitude of the momentum of the electron
 (III) Force on the electron
 (IV) The kinetic energy of electron
 (A) Only I and II (B) Only III and IV (C) All four (D) Only II and IV
41. An open box is made from a square lamina of side 12cm , by cutting equal squares at the corners and folding up the remaining flaps. The volume of this box cannot be
 (A) 115 c.c. (B) 120 c.c. (C) 125 c.c. (D) 130 c.c.

42. A has a pair of triangles corresponding sides proportional, and B has a pair of pentagons with corresponding sides proportional,
 $S_1 =$ A's triangles must be similar
 $S_2 =$ B's pentagons must be similar
 Which of the following statement is correct?
 (A) S_1 is true but S_2 is not true (B) S_2 is true, but S_1 is not true
 (C) Both S_1 and S_2 are true (D) Neither S_1 nor S_2 is true.
43. ΔABC is an equilateral triangle of side $2\sqrt{3}$ cms. P is any point in the interior of ΔABC . If x, y, z are the distances of P from the sides of the triangle, then $x + y + z =$
 (A) $2 + \sqrt{3}$ cms (B) 5 cms (C) 3 cms (D) 4 cms
44. Which of the following numbers is the fourth power of a natural number?
 (A) 6765201 (B) 6765206 (C) 6765207 (D) 6765209
45. The square of an odd integer must be of the form :
 (A) $6n + 1$ (B) $6n + 3$
 (C) $8n + 1$ (D) $4n + 1$ but may not be $8n + 1$
46. ABCD is a square with side 'a'. With centres A, B, C and D four circles are drawn such that each circle touches externally two of the remaining three circles. Let δ be the area of the region in the interior of the square and exterior of the circles. Then the maximum value of δ is :
 (A) $a^2 (1-\pi)$ (B) $a^2 = \left(\frac{4-\pi}{4}\right)$ (C) $a^2 (\pi-1)$ (D) $\frac{\pi a^2}{4}$
47. The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 89^\circ$ is :
 (A) 0 (B) 1 (C) 2 (D) 3
48. $ax^2 + bx + c = 0$, where a, b, c are real, has real roots if :
 (A) a, b, c are integers (B) $b^2 > 3ac$ (C) $ac > 0$ and b is zero (D) $c = 0$
49. An open box A is made from a square piece of tin by cutting equal squares S at the corners and folding up the remaining flaps. Another open box B is made similarly using one of the squares S. If U and V are the volumes of A and B respectively, then which of the following is not possible ?
 (A) $U > V$ (B) $V > U$
 (C) $U = V$ (D) Minimum value of U > maximum value of V.

50. Which of the following statements holds always true ?
 (A) Every rectangle is a square. (B) Every parallelogram is a trapezium
 (C) Every rhombus is a square (D) Every parallelogram is a rectangle
51. Which of the following polygons are uniquely determined when all the sides are give ?
 (A) Quadrilateral (B) Triangle (C) Pentagon (D) Haxagon
52. There are several human beings and several dogs in a room. One tenth of the humans have lost a leg. The total numbers of feet are 77. Then the number of dogs is :
 (A) not determinable due to insufficient data (B) 4
 (C) 5 (D) 6
53. All the arcs in the following diagram are semi-circles. This diagram shows two paths connecting A to B. Path I is the single large semi-circle and Path II consists of the chain of small semi- circles.



- (A) Path I is longer than path II
 (B) Path I of the same length of Path II
 (C) Path I is shorter than Path II
 (D) Path I is of the same length as Path II. Only if the number of semi circles is not more than 4
54. One integer is chosen out of 1, 2, 3, ..., 100. What is the probability that it is neither divisible by 4 nor by 6
 (A) 0.59 (B) 0.67 (C) 0.41 (D) 0.33
55. $\sqrt{(a-b)^2} + \sqrt{(b-a)^2}$ is :
 (A) Always zero (B) Never zero
 (C) Positive if and only if $a > b$ (D) Positive only if $a \neq b$
56. A solid metal sphere of surface area S_1 is melted and recast into a number of smaller spheres. S_2 is the sum of the surface areas of all the smaller spheres. Then
 (A) $S_1 > S_2$
 (B) $S_2 > S_1$
 (C) $S_1 = S_2$
 (D) $S_1 = S_2$ only if all the smaller spheres of equal radii

57. Which of the following is an irrational number?
(A) 41616 (B) 23.232323
(C) $\frac{(1+\sqrt{3})^3 - (1-\sqrt{3})^3}{\sqrt{3}}$ (D) 23.10100100010000...
58. Rs.1 and Rs.5 coins are available (as many required). Find the smallest payment which cannot be made by these coins, if not more than 5 coins are allowed.
(A) 3 (B) 12 (C) 14 (D) 18
59. Median of a data number which has number of observations below and above it. The median set is a an equal below and of the data
1, 9, 4, 3, 7, 6, 8, 8, 12, 15 is
(A) 7.5 (B) 7
(C) 8 (D) Any number between 7 and 8
60. Suppose you walk from home to the bus stand at 4 km/h and immediately return at x km/h. If the average speed is 6 km/h then x is
(A) 8 km/h
(B) 10 km/h
(C) 12 km/h
(D) cannot be determined unless the distance from home to bus stand is known.
61. From about 13th century to the time of the French Revolution sumptuary laws were expected to be followed strictly to :
(A) Regulate the behaviour of the royalty.
(B) Regulate the income of people by social rank
(C) Control the behaviour of those considered social inferiors
(D) Provide religious sanctity to social behaviour
62. Choose the correct response from the given options. On 3rd March 1933 the famous Enabling Act was passed to :
(a) establish dictatorship in Germany. (b) give Hitler the power to rule by decree
(c) ban all trade unions
(d) ban all political parties, except Nazi Party and its affiliates
(A) Only a and b are correct (B) only c and d are correct
(C) a, b and c are correct (D) All are correct
63. Enclosures in England were seen as:
(A) hindrance to agricultural expansion and crop rotation.
(B) hindrance to commercialization of agriculture.
(C) necessary to make long-term investment on land, agriculture and to plan crop rotation to improve the soil.
(D) necessary to protect the interests of those who depended on the commons for their survival.

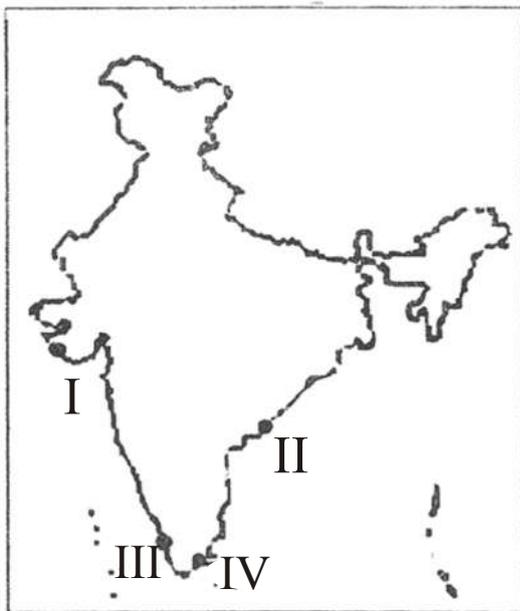
64. The Balkans, which was a serious source of nationalist tension in Europe after 1871, was a region comprising of:
- (A) Romania, Germany, Poland, Bulgaria.
 - (B) Romania, Prussia, Greece, Croatia and Serbia.
 - (C) Serbia, Austria, Bulgaria, Slovakia and Poland.
 - (D) Serbia, Bulgaria, Greece, Croatia, Romania.
65. What was Rinderpest?
- (1) A disease of cattle plagues that spread in Africa in the 1890s.
 - (B) Bubonic plague which spread in the region of Maharashtra in the 1890s.
 - (C) A type of cholera that spread in Assam in the 1890s.
 - (D) A devastating bird disease that was imported to Italy from British Asia through chicken meat.
66. Which of the following is a correct match ?
- (A) Rashsundari Debi – Istri Dharma Vichar
 - (B) Ram Chadda – Amar Jiban
 - (C) Kashibaba – Chote Aur Bade ka Sawaal
 - (D) Sudarshan Chakra – Gulamgiri
67. Printing created possibilities of wider circulation of ideas. Who of the following hailed printing as the ultimate gift of God?
- (A) Martin Luther
 - (B) Menocchio
 - (C) Roman Catholic Church
 - (D) Gutenberg
68. The forest Act of 1878 divided forests into :
- (A) reserved and protected forests
 - (B) protected and village forests
 - (C) bio-sphere reserves and wild life sanctuaries
 - (D) reserved, protected and village forests
69. Consider the following statements and identify the correct response from the options given thereafter :
- Statement I : Hitler said ‘In may state the mother is the most important citizen’
- Statement II: In Nazi Germany while boys were taught to be aggressive, muscular and steel hearted; girls were told that they had to become good mothers.
- (A) Statement I is true but statement II is false.
 - (B) Both statement I and statement II are true but statement II is not the correct explanation of statement I
 - (C) Both the statements are False.
 - (D) Both statement I and statement II are true and statement II is the correct explanation of statement I.

70. Consider the following statements and choose the correct response from the options given thereafter:
- Statement I: The major cricket tournament of colonial India, the ‘Quadrangular’ did not represent regions but religious communities.
- Statement II: The victory of the ‘Hindus’ in the ‘Quadrangular’ cricket tournament in 1923 was equated by a cricket fan with Gandhiji’s war on ‘untouchability’.
- (A) Statement I is true but statement II is false.
(B) Statement I is false but statement II is true
(C) Both statement I and statement II are true and II is correct explanation of statement I
(D) Both statement I and statement II are true but statement II is not the correct explanation of statement I.
71. Match the following columns :
- | Column A | Column B |
|--|--------------------|
| (I) Ambedkar established the Depressed Classes Association | (A) December, 1929 |
| (II) Gandhiji began the Civil Disobedience Movement | (B) August, 1930 |
| (III) Gandhiji ended the Civil Disobedience Movement | (C) March, 1930 |
| (IV) Congress adopted the demand for ‘Purna Swaraj’ | (D) March, 1931 |
- (A) (I) – (C), (II) – (D), (III) – (B), (IV) – (A)
(B) (I) – (B), (II) – (C), (III)– (D), (IV) – (A)
(C) (I) – (C), (II) – (A), (III) – (B), (IV) – (D)
(D) (I) – (D), (II) – (C), (III) – (B), (IV) – (A)
72. Consider the following statements and choose the correct response from the options given thereafter:
- Statement I: The Act of Union 1707 led to the formation of the “United Kingdom of Great Britain”.
- Statement II: The British parliament was henceforth dominated by its English members.
- (A) Both statement I and statement II are false
(B) Both statement I and statement II are true and statement II is the result of statement I.
(C) Statement I is true but statement II is false
(D) Both statement I and statement II are true but statement II is not a result of statement I.

73. Consider the following statements and choose the correct response from the options given thereafter:
- Statement I: Traders and travellers introduced new crops to the land they travelled.
- Statement II: Noodles most likely travelled from China through Arab traders to Sicily.
- Statement III: Potato reached the West through travellers and became the staple diet of the poor.
- (A) Statement I and statement III are true.
- (B) Statement II and statement III are true.
- (C) All three statements are true
- (D) Statement I and statement II are true.
74. Assertion (A): Gandhiji's idea of satyagraha emphasised on the power of truth and the need to search for truth.
Reasoning (R): Gandhiji believed that a satyagrahi could win the battle by appealing to the conscience of the oppressor.
- Select the correct option from the given alternatives.
- (A) A is true and R is false.
- (B) Both A and R are true but R not the correct explanation of A.
- (C) Both A and R are true and R is the correct explanation of A.
- (D) Both A and R are false.
75. Assertion (A): The Civil Disobedience Movement was different from the Non-cooperation Movement.
Reason (R): People in the Civil Disobedience Movement were asked not only to refuse cooperation with the British but also to break colonial laws. Select the correct option from the given alternatives. —
- (A) Both A and R are true but R is not the correct explanation of A.
- (B) Both A and R are false.
- (C) A is false but R is true.
- (D) Both A and R are true and R is the correct explanation of A.

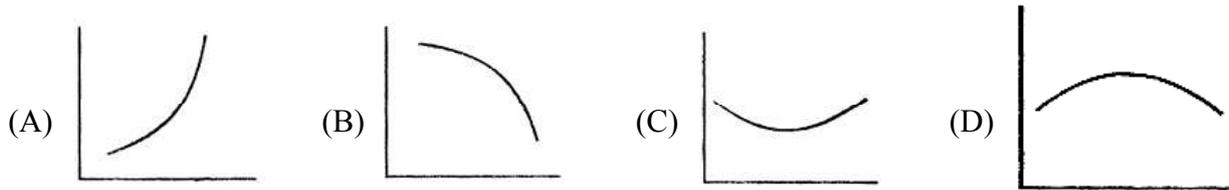
76. Assertion (A) : Coal is a fossil fuel.
Reason(R) : It is formed due to compression of inorganic material over millions of years.
Select the correct option from the given alternatives.
(A) Both (A) and (R) are true, and (R) explain (A)
(B) Both (A) and (R) are true, but (R) does not explain (A)
(C) (A) is true and (R) is false
(D) (A) is false and (R) is true
77. Assertion (A) : The sun rises in Arunachal Pradesh about two hours before Gujarat.
Reason(R) : Arunachal Pradesh is on a higher latitude than Gujarat. Select the correct option from the given alternatives.
(A) Both (A) and (R) are true, and (R) explain (A)
(B) Both (A) and (R), are true, but (R) does not explain (A)
(C) (A) is true and (R) is false
(D) (A) is false and (R) is true
78. Assertion (A) : In India, east coast has more seaports than the west coast.
Reason(R) : The east coast is broader and is an example of emergent coast. Select the correct option from the given alternatives.
(1) Both (A) and (R) are true, and (R) explain (A)
(B) Both (A) and (R) are true, but (R) does not explain (A)
(C) (A) is true and (R) is false
(D) (A) is false and (R) is true
79. Who overthrew the Bao Dai government in the South Vietnam ?
(A) The National Liberation Front
(B) The French themselves
(C) Ho Chi Minh's forces
(D) A coup led by Ngo Dinh Diem of the united opposition parties called the National Liberation Front

80. Assertion (A) : The north western parts of India receive rainfall in winter.
Reason (R) : The winter rainfall in India occurs due to North East monsoon.
Select the correct option from the given alternatives.
(A) Both (A) and (R) are true, and (R) explain (A)
(B) Both (A) and (R), are true, but (R) does not explain (A)
(C) (A) is true and (R) is false
(D) (A) is false and (R) is true
81. Which four major ports of India lie on the Golden Quadrilateral ?
(A) Chennai, Tuticorin, Mangalore, Marmagao
(B) Kolkata, Chennai, Mangalore, Mumbai
(C) Marmagao, Mumbai, Kandla, ,Mangalore
(D) Kolata, Mumbai, Vishakhapatanam, Chennai
82. Match the fishing ports indicated on the map of India (I, H, III and IV) with their respective names.
A. Kakinada
B. Alappuzha
C. Porbandar
D. Tuticorin



- (A) II-A, III-B, I-C, IV-D
(B) I-A, II-B, III-D, IV- C
(C) I-C, II-B, III-A, IV-D
(D) I-D, II-B, III-A, IV-C

83. Which figure relates the trend of population Growth rate 195 1-2001?



84. Assertion (A): The Himalayan ranges show change in vegetation from tropical to tundra.
 Reason (R) : In mountainous area with increase in altitude there is corresponding decrease in temperature, which leads to change in vegetation types.

Select the correct option from the given alternatives.

- (A) Both (A) and (R) are true and (R) explain (A).
- (B) Both (A) and (R) are true but (R) does not explain (A).
- (C) (A) is true and (R) is false.
- (D) (A) is false and (R) is true.

85. Which of the following methods are used to restrict soil erosion?

- A. Ploughing along contour lines
- B. Strip cropping
- C. Jhumming
- D. Mixed farming

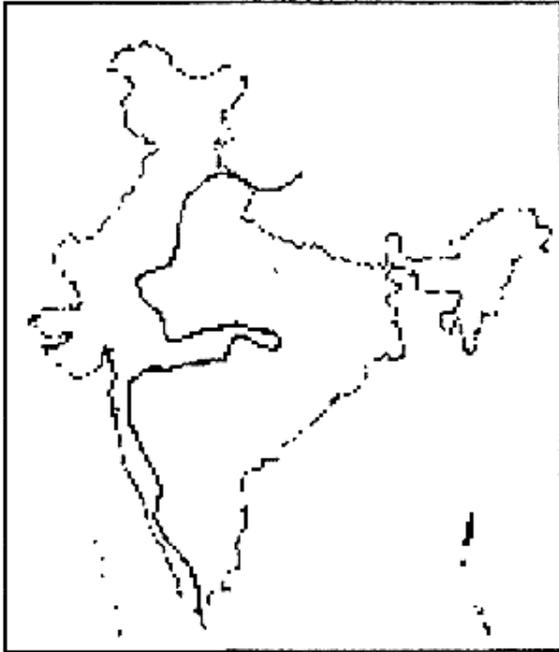
- (A) A and B
- (B) A and C
- (C) B and D
- (D) B and C

86. Assertion (A) : Although only the southern part of India lies in tropical region, the whole of India has tropical climate.

Reason (R) : Himalaya mountain ranges protect it from the northerly cold winds. Select the correct option from the given alternatives.

- (A) Both (A) and (R) are true and (R) explain (A)
- (B) Both (A) and (R) are true but (R) does not explain (A)
- (C) (A) is true and (R) is false.
- (D) (A) is false and (R) is right

87. What does the zig-zag line indicate on the map of India?



- (A) Advancement summer monsoon on 1st June.
(B) Line dividing tropical evergreen and deciduous forest.
(C) Water divide between east and west flowing rivers.
(D) Line dividing annual rainfall above and below 100 cm.
88. Which of the following feature has similar geological structure with Meghalaya, Karbi Anglong plateau and Cachar Hills?
(A) Aravalli Range (B) Purvanchal Hills
(C) Siwaliks (D) Chotanagpur Plateau
89. Assertion (A): Sex Ratio in India is low.
Reason (R) : Indian society has been unfavourable to females.
Select the correct option from the given alternatives.
(A) Both (A) and (R) are true, and (R) explain (A)
(B) Both (A) and (R) are true, but (R) does not explain (A)
(C) (A) is true and (R) is false
(D) (A) is false and (R) is true
90. A pilot takes off from an airport at 15°S latitude and flies 55° due North. What latitude the pilot has reached ?
(A) 55°N (B) 40°N (C) 70° N (D) 15°N

91. Which of the following is not a feature of Indian federalism ?
(A) The Constitution creates a strong Centre.
(B) The Constitution provides for a single judiciary
(C) The Constitution provides for a common All India Services.
(D) The Constitution provides equal representation to the States in the Upper House of Parliament.
92. Which of these features is not a guiding value of the Indian Constitution ?
(A) No external power can dictate to the Government of India
(B) The head of the State is a hereditary position
(C) All people are equal before law.
(D) Citizens have complete freedom to follow any religion
93. According to Dr. B.R. Ambedkar, which of the following is 'heart and soul' of our Constitution ?
(A) The Preamble
(B) Right to Equality
(C) Right against Exploitation
(D) Right to Constitutional Remedies
94. Democracy is considered to be better than other forms of government. Which of the following statements support this claim ?
A. It is a more accountable form of government.
B. It improves the quality of decision making
C. It ensures rapid economic development of citizens
D. It enhances the dignity of citizens
(A) A, B and D (B) A and C
(C) A, B and C (D) B, C and D
95. The Constitution of India was amended in 1992 to make the third-tier of democracy more effective. As a result, at least one-third of all positions in the local bodies are reserved for women. This is because
(A) women are good at managing resources.
(B) although women constitute nearly half of the population, they have inadequate representation in decision-making bodies.
(C) we have many powerful women leaders.
(D) women are obedient and would follow the constitutional provisions well.
96. In which of the following economies are people more of a resource?
(A) Country A with 78% of the working age population illiterate and with very low life expectancy
(B) Country B with 10% of the working age population illiterate and with high life expectancy
(C) Country C with 60% of people in the working age illiterate, but with high life expectancy
(D) Country D with only 10% of population in the working age illiterate, but has very low life expectancy.

97. Which of the following statements is true of agriculture in Indian economy between 1973 and 2003?
- (A) The sectorial share of agriculture in employment has decreased far more than its share on total output.
(B) The sectorial share of agriculture in total output has decreased, but its share in employment has increased.
(C) The sectorial share of agriculture in total output has increased, but its share in employment has decreased.
(D) The sectorial share of agriculture in output has decreased far more than its share in total employment.
98. Which of the following can be considered as Foreign Direct investment made in India?
- A. The TATAs acquire Corus steel plant abroad. r
B. Mr. Donald, an American citizen, acquires 100 shares of an Indian listed company.
C. The remittances sent by an Indian doctor in Dubai back to his hometown in Kerala.
D. The US multinational Google opens its full-fledged unit at Gurgaon, Haryana.
- (A) (A) and (D) (B) (A) and (B)
(C) (D) Only (D) (B) and (C)
99. We accept paper money as a medium of exchange because
- (A) It has gold backing
(B) the law legalizes it
(C) Reserve Bank of India has precious metals against which it prints notes
(D) Everyone else accepts it
100. Which of the following refers to trade barrier in the context of WTO ?
- I. Restrictions on domestic trade
II. Not allowing companies to do foreign trade beyond specific quantity
III. Restrictions on the export and import of goods
IV. Restrictions on the price fixed by Companies.
- (A) (I), (II) and (III) (B) (I), (II) and (IV)
(C) (II), (III) and (IV) (D) (I), (II) and (IV)



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