FundaMakers

JIPMAT 2023

Previous Year Paper
With Solutions

QUANTITATIVE ABILITY

1. If $\sin(\theta) - \cos(\theta) = 0$, the value of $\sin^4(\theta) + \cos^4(\theta)$ is

(a) 1

(b) $\dfrac{1}{2}$

(c) $\dfrac{3}{4}$

(d) $\dfrac{1}{4}$

2. $\sqrt{3 + \sqrt{5}} =$

(a) $\sqrt{2} + 1$

(b) $\sqrt{\dfrac{5}{2}} + \sqrt{\dfrac{+}{2}}$

(c) $\sqrt{\dfrac{9}{2}} - \sqrt{\dfrac{1}{2}}$

(d) $\sqrt{\dfrac{9}{2}} - \sqrt{\dfrac{3}{2}}$

3. If the pair linear equations $2x + 3y = 7$ and $2px + (p - q)y = 28$ has infinite number of solutions then , $(p, q) =$

(a) (8, 4)

(b) (4, - 8)

(c) (3, 6)

(d) (6, 3)

4. Which of the following statements are True in the context of circles?

A. A tangent of a circle touches it at two points.

B. A circle can have two parallel tangents at the most.

C. There is no tangent to a circle passing through a point inside the circle.

Choose the correct answer from the options given below:

(a) A and B only

(b) A, B and C

(c) A and C only

(d) B and C Only

5. Given below are two statements:

Statement (I); 4 boys and 8 girls completed $\frac{1}{3}$rd of work in 5 days. After that 3 boys and 3 girls increased, and they completed $\frac{1}{3}$rd more work in 3 days. If the remaining work is to be completed in 2 days, then the number of girls that should be increased is 32.

Statement (II): The ratio of time taken by A and C to do a work is 1 : 2 respectively. B is $166\frac{2}{3}\%$ more efficient than C. Time taken by A to complete 6% of work is 6 days.

Then, the time taken by B and C together to complete the whole work is $54\frac{6}{11}$ days.

In light of the above statements, choose the most appropriate answer from the options given below.

(a) Both Statement (I) and Statement (II) are true.

(b) Both Statement (I) and Statement (II) are false.

(c) Statement (I) is true but Statement (II) is false.

(d) Statement (I) is false but Statement (II) is true.

6. The radii of two cones are in the ratio 2 : 3 and their volumes in the ratio 1 : 3. Then the ratio of their heights is

(a) 3:2

(b) 1:2

(c) 3:4

(d) 2:3

7. The area of the circle that can be inscribed in a square of side 6 cm is

(a) 36π cm^2

(b) $18\pi^2$

(c) 12π cm^2

(d) 9π cm^2

8. The mean of 25 observations is 36. If the mean of the first 13 observations is 32 and that of the last 13 observations is 39, then the 13th observation is

(a) 16

(b) 23

(c) 1/21

(d) 18

9. Let A and B be two events such that P(A) = 0.25, P(B) = 0.50 and P (A∩B) = 0.14. The probability that neither A nor B occurs is

(a) 0.09

(b) 0.19

(c) 0.39

(d) 0.29

10. Amicable numbers are a pair of distinct natural numbers (a, b) such that the sum of the proper divisors of a equals b and the sum of the proper divisors of b equals a. Given that (220, y) is a pair of amicable numbers, y = _____.

    (For example, proper divisors of 10 are 1, 2, 5).

    (a) 225   (b) 284

    (c) 504   (d) 768

11. Two identical solid cubes of side 5 cm are joined end to end. Then the total surface area of the resulting cuboid is

    (a) $300\,cm^2$ (b) $250\,cm^2$

    (c) $1225\,cm^2$ (d) $200\,cm^2$

12. How many proper divisors (that is, divisors other than 1 or 7200) does 7200 have?

    (a) 54   (b) 52

    (c) 20   (d) 18

13. Given below are two statements based on the following: Aman takes half time in rowing a certain distance downstream than upstream.

    Statement (I): Ratio of the speed of the boat in still water to the speed of the water current is 2: 1.

    Statement (I): If the speed of the boat in still water is 6 km per hour, then the speed of the water current is 2 km per hour.

    In light of the above statements, choose the most appropriate answer from the options given below.

    (a) Both Statement (I) and Statement (II) are true.

    (b) Both Statement (I) and Statement (II) are false.

    (c) Statement (I) is true but Statement (II) is false.

    (d) Statement (I) is false but Statement (II) is true.

14. The probabilities that A, B, and D can solve a problem independently are $\frac{1}{3}, \frac{1}{3}$ and $\frac{1}{4}$ respectively. The probability that only two of them are able to solve the problem is .

    (a) 5/36   (b) 7/36

    (c) 13/36   (d) 1/2

15. The number of integral solutions of the equation $7(y+\frac{1}{y}) - 2(y^2 + \frac{1}{y^2}) = 9$ is

    (a) 0   (b) 1

    (c) 2   (d) 3

16. Given below are two statements:

    Statement (I): $(x^2+3x+1) = (x - 2)^2$ is not a quadratic equation

    Statement (II): The nature of roots of quadric equations $x^2 + 2x\sqrt{3} + 3 = 0$ are real and equal.

    In light of the above statements, choose the most appropriate answer the option given below.

    (a) Both Statement (I) and Statement (II) are true.

    (b) Both Statement (I) and Statement (II) are false.

    (c) Statement (I) is true but Statement (II) is false.

    (d) Statement (I) is false but Statement (II) is true.

17. The total number of seconds in P weeks, P days, P hours, P minutes and P seconds is.

    (a) 11580 P   (b) 11581 P

    (c) 694860 P   (d) 694861 P

18. k^2-1 is divisible by 8, if k is

    (a) an integer   (b) a natural number

    (c) an even integer   (d) an odd integer

19. Given below are two statements:

    Statement (I): The difference, the sum and the product of two numbers are in the ratio 1: 5: 12. The product of the two numbers is 18.

    Statement (II): The last digit in the decimal representation of 2^{91} is 6.

    In light of the above statements, choose the most appropriate answer from the options given below.

    (a) Both Statement (I) and Statement (II) are true.

    (b) Both Statement (I) and Statement (II) are false.

    (c) Statement (I) is true but Statement (I) is false.

    (d) Statement (I) is false but Statement (II) is true.

20. Given below are two statements:

    Statement (I): The volume of a right circular cylinder of base radius 7 cm and height 10 cm is 1540 cm^2 (Take $\pi = \frac{22}{7}$).

    Statement (II): Total surface area of the cylinder having radius of base 14 cm and height 30 cm, is 3872 cm^2 (Take $\pi = \frac{22}{7}$).

    In light of the above statements, choose the most appropriate answer from the options given below.

    (a) Both Statement (I) and Statement (II) are true.

    (b) Both Statement (I) and Statement (II) are false.

    (c) Statement (I) is true but Statement (Il) is false.

    (d) Statement (I) is false but Statement (Il) is true.

21. Sonali buys 2 Pen Drives A and B and their cost price is in the ratio of 5:6 respectively. If she sells them on 10% profit each, she earns total profit of ₹ 22. What will be her total profit, if she sells Pen Drive A on 20 % loss and Pen Drive B on 30% profit?

(a) ₹ 16   (b) ₹ 13

(c) ₹ 14   (d) ₹ 24

22. The expression $2x^3 + ax^2 + bx + 3$, where a and b are constants, has a factor of x-1 and leaves a remainder of 15 when divided by x + 2. Then, (a, b) =

(a) (-3, 8)   (b) (3, -8)

(c) (-3, -8)   (d) (3, 8)

23. A 30 metre deep well, with diameter 7 metre is dug and the earth from digging is evenly spread out to form a platform of size 22 metre by 14 metre. The height of the platform is

(a) 3.5 metre   (b) 3.75 metre

(c) 2.5 metre   (d) 3 meter

24. Given below are two statements in the context of throwing two different dice together:

Statement (I): The probability that the two numbers obtained have even sum, is 0.50.

Statement (I): The probability that the two numbers obtained have even product is 0.75.

In light of the above statements, choose the most appropriate answer from the options given below.

(a) Both Statement (I) and Statement (Il) are true.

(b) Both Statement (I) and Statement (I) are false.

(c) Statement (I) is true but Statement (Il) is false.

(d) Statement (I) is false but Statement (Il) is true.

25. If the eight-digit number 5a32465b is divisible by 88, then 2a + 5b =

(a) 36   (b) 38

(c) 40   (d) 24

26. Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Sum of first hundred even natural numbers divisible by 5 is 45050.

Reason (R) : Sum of first n-terms of an Arithmetic Progression is given by $s_n = \frac{n}{2}(\square + \square)$ where a = first term, $\square$ = last term

In light of the above statements, choose the correct answer from the options given below.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true but (R) is NOT the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

27. The graph of a polynomial y = f(x) is shown in figure below, then the number of its zeros is:

(a) 4   (b) 3

(c) 2   (d) 1

28. Sumit has ₹ 90000 with him. He purchases three items A, B and C for ₹ 15000, ₹13000 and ₹ 35000 respectively and puts the remaining money in a bank deposit that pays compound interest @15% per annum. After 2 years, he sells off the three items at 80% of their original price and also withdraws his entire money from the bank by closing the account. What is the total change in his asset?

(a) - 4.152%   (b) + 3.152%

(c) - 4.325%   (d) + 5.552%

29. In a survey of 100 students, the number of students studying various languages were found to be: English only-18, English but not Hindi-23, English and German-8, English-26, German-48, German and Hindi-8, no language-24. Then, which of the following statements are true?

A. Number of students who were studying Hindi is 18.

B. Number of students who were studying English and Hindi is 3.

C. Number of students who were studying English, Hindi and German is 3.

Choose the correct answer from the options given below:

(a) A and B only   (b) A and C only

(c) B and C only   (d) A, B and C

30. In ΔABC, $\angle$ B = 90°, BC = 5 cm, AC - AB = 1 cm, then $\frac{1+\sin(C)}{1+\cos(C)}$ is

(a) $\frac{5}{6}$ (b) $\frac{6}{5}$

(c) 2   (d) $\frac{25}{18}$

31. If the difference the circumstance and radius of circle is 37cm, then u using $\pi = \frac{22}{7}$, what is the circumference (in cm) of the circle?

(a) 42 cm   (b) 46 cm

(c) 44 cm   (d) 38 cm

32. Which of the following statements are True?

A. The mean of x, y, z is y. Then x + z = 2y.

B. Median of 15, 28, 72, 56, 44, 32, 31, 43 and 51 is 43.

C. Mode of 2, 3, 4, 5, 0, 1, 3, 3, 4 and 3 is 3.

Choose the correct answer from the options given below:

(a) A and B only   (b) A and C only

(c) B and C only   (d) A, B and C

33. In a Women's Chess Championship having 300 entrants, a player is eliminated whenever she loses a match. It is given that no match results in a draw. The number of matches that are played in the entire Championship is

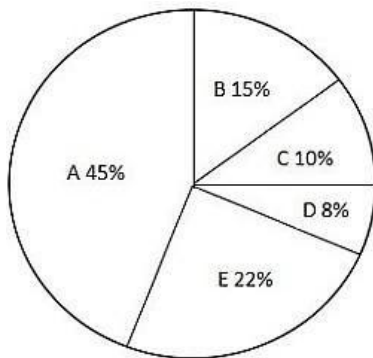(a) 301   (b) 300

(c) 299   (d) 298

Questions: 33 (+4/-1)

Direction (Q.34-Q.37): The table below gives the percentage of marks obtained by 6 students in 6 subjects in an examination. Answer the following questions based on the data given in the table. The numbers in brackets are the maximum marks in each subject.

STUDENTS	Subject (Max. marks) Physics (120)	Subject (Max. marks) Biology (120)	Subject (Max. marks) Math (120)	Subject (Max. marks) Geology (120)	Subject (Max. marks) Economics (120)	Subject (Max. marks) English (120)
A	70	75	70	65	60	70
B	80	70	75	60	50	75
C	75	72	71	70	60	65
D	60	70	65	55	60	70
E	70	75	65	50	55	60
F	65	70	60	65	50	60

34. How many students have obtained more than 65% overall marks in all the subjects and who are those students?
    (a) 3; A, B, C
    (b) 2; B and C
    (c) only one; B
    (d) 3; B, C. D

35. What is the overall percentage of A, B and C respectively?
    (a) 68.44, 69.29, 68.94
    (b) 68.94, 68.14, 68.29
    (c) 68.29, 68.14, 68.94
    (d) 67.14, 68.14, 69.94

36. In which subject the overall percentage is maximum and what is the percentage?
    (a) Biology, 72%
    (b) Physics, 70%
    (c) Math, 71%
    (d) English, 71%

37. Find the average marks obtained by a student in Economics and Physics respectively.
    (a) 84, 67
    (b) 65, 83
    (c) 66, 85
    (d) 67, 84

Direction (Q.38-Q.40): The following pie chart shows the share of sales of five computer brands (A-E) in India in 2005.

38. Considering sale of A increased by 50% in 2006, sale of E increased by 10% and all other brands had no change in sales. Total sales in 2006 was 2,16,000. What was the sale of A in 2005 (approximately),
    (a) 1,23,000
    (b) 1,08,600
    (c) 77,947
    (d) 1,16,920

39. In 2006, value wise sale of A increased by 50% and that of E increased by 10%. The sales of all other brands remained the same. By what percentage total sales(value wise) grew in 2006 as compared to 2005?
    (a) 124%
    (b) 60%

A 45%
B 15%
C 10%
D 8%
E 22%

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40. In 2006, if sales value of B increases by 10% and that of A decreases by 10%. What is the percentage change in sales, if sale of all other brands remain same?
(a) No change
(b) Decrease by 3 %
(c) Increase by 6 %
(d) Decrease by 1 %

41. There is a certain relationship between two given terms on one side of (: :) and one term is given on the other side of (: :). While another term is to be found from given alternatives having the same relation with this term as the terms of given pair.
BJMS : EMPV :: AWPL : ?
(a) DYRO
(b) CORN
(c) DZSO
(d) WIN

42. Five people A, B, C. D and E participated in a race. D ran faster than E but slower than B. C ran slower than E but was not the slowest. Who ran at the fastest speed?
(a) A
(b) C
(c) B
(d) D

Direction (Q.43 and Q.44): Number of vehicles (in hundred) passing through a toll plaza in different weeks of September.

Vehicle → week↓	Bus	Truck	Car
I	28.3	15.4	40.2
II	24.5	12.3	36.1
III	20.4	14.2	42.9
IV	24.4	15.7	39.8

43. In which week of September, the tota*l* number of vehicles passing through the toll plaza was the second highest?
(a) II
(b) IV
(c) I
(d) III

44. What was the average number of buses passing through the toll plaza per week?
(a) 2530
(b) 2860
(c) 2070
(d) 2440

45. The numbers in the figure below have certain logic/pattern. Using that logic/pattern, find out the number that can be inserted in place of ?.

(a) 45
(b) 42
(c) 71
(d) 60

46. Each of four persons P. Q. R and S play one game out of four different games namely Chess, Tennis, Cricket and Football not necessarily in the same order. These persons live in one of the four different cities of Bombay, Calcutta, Ahmedabad, and Jaipur not necessarily in the same order. Further the following information is also given:
a) Neither S nor the person from Calcutta plays Cricket.
b) Q plays either Football or Chess.
c) P is from Bombay
d) P plays either Chess or Tennis
e) The person who plays Tennis is from Jaipur
The person who lives in Ahmedabad plays which of the following sports?
(a) Tennis
(b) Chess
(c) Cricket
(d) Football

47. Find the odd one among the following
(a) PWSORAR
(b) GONEIO
(c) TPORAR
(d) IRABLNI

48. Unscramble the letters in the given words in order to generate meaningful words and then find the odd one out.
EIWNTR LCUOD UMRSME PIGRSN
(a) EIWNTR
(b) LOUD
(c) UMRSME
(d) PIGRSN

49. Ram and Sham are real brothers. Sita and Gita are real sisters. Ram's son is Gita's real brother. How is Sham related to Sita?
(a) Sham is brother of Sita
(b) Sham is father of Sita
(c) Sham is uncle of Sita
(d) Sham is Grand father of Sita

50. Answer the following based on analogy. Ecology is related to Environment in the same way as Histology is related to___.
(a) History
(b) Hormones
(c) Tissues
(d) Fossils

51. The main statement is followed by four answers. Select the one that logically follows from the main statement
"If the game is interesting, then I play it"
(a) I played a game means it is interesting
(b) The game is interesting. I do not play it
(c) I did not play the game though it was interesting.

(d) I did not play a game implies that the game was not interesting

52. A boy runs 150 meters towards south from his house. He then turns left and runs 300 meters, again turns left and runs 350 meters. Now he turns right and runs 50 meters to reach the stadium. In which direction is the stadium from house of the boy?

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

53. Sham knows that Ram's birthday falls between 14th and 21st October. According to Shalini Ram's birthday falls between 15th and 20th October. Both of them also know that this year his (Ram's) birthday falls on Wednesday. If 2nd October is Monday, then when does Ram's birthday fall?

(a) 16th October
(b) 17th October
(c) 18th October
(d) 19th October

54. Six books of various subjects are kept in a shelf one on the top of the other.
Electronics book is just above the Chemistry book. Statistics book is between Commerce book and Environmental Science book. The book of Botany is between Electronics and Commerce books. The book of which subject is at the top?

(a) Chemistry
(b) Commerce
(c) Environmental Science.
(d) Electronics

55. Two cars A and B start running from the opposite ends X and Y of a national highway with a length of 120 Km. Car A starts from end X and runs 30 Km straight. It then takes right turn and runs 15 Km, then turns left and runs for 30 Km. Thereafter, the car turns towards the highway and reaches back on the highway. In the meantime the car B has also started running from the other end Y of the highway, but due to a minor breakdown could run only for 35 Km along the highway till the time the car A has reached back on the highway. What is the distance between two cars at this point?

(a) 28 Km
(b) 35 Km
(c) 30 Km
(d) 25 Km

56. Eight persons A, B, C, D, E, F, G and H are sitting around a circle, facing the centre. E sits fourth to the right of F while second to the left of A. D is not the neighbour of A &C. B sits third to the right of D. F

never sits next to H. Which of the following pairs sit between G and A?

(a) C, F
(b) A, B
(c) E, H
(d) D, H

57. Six persons P, Q. R. S, T and U were sitting around a hexagon table facing the center. U was siting opposite to P, who was in the immediate left of R. S was sitting to the immediate right of U and T was exactly between P and S. What was the sitting location of Q?

(a) Opposite to R
(b) Opposite to P
(c) Between U and R
(d) Immediate left of P

58. Find the missing term in the series given below:
10,11,13,17,25.32,37, ? _____

(a) 69
(b) 45
(c) 62
(d) 47

59. Clock shows the time as 3:00 p.m. What would be time on the clock, when the hour hand moves 135°?

(a) 5:30
(b) 7:30
(c) 6:30
(d) 8:30

60. Suppose that the year 2008 starts with the day 'Monday: The calendar for the year 2009 will be the same in the year:

(a) 2015
(b) 2011
(c) 2013
(d) 2016

61. Find the number that can replace question mark(?) in the series given below.
2, 12, 30, 56, 90, ?

(a) 132
(b) 146
(c) 136
(d) 128

62. Which of the wordscannot be formed fromtheletters of the word "CONSULTATION"?

(a) NATION
(b) STATION
(c) SOLUTION
(d) SALUTE

63. In a certain coding language, HE is coded as 418 and GO is coded as 240. How SHE will be coded in that language?

(a) 4444
(b) 3333
(c) 4433
(d) 3344

64. Find the number that can replace question mark (?) in the series given below.
15, 18, 17, 21, 20, 25, 24, 30, 29, ?

(a) 32
(b) 36
(c) 28
(d) 59

65. In a certain Coded language CAT is coded as 6423. How LION will be coded in that language?

(a) 15121817   (b) 1291514

(c) 961211   (d) 14131716

66. Match List – I and List- II

List- I	List – II
Angle between hour hand and minute hand of a clock	Time
(A) 105°	(I) 7:15
(B) 45 °	(II) 9:15
(C) 127.5°	(III) 4:30
(D) 187.5°	(IV) 2:30

Choose the correct answer form the options given below.

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

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

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

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

67. Pick out the correct sentence from the following sentences.
- (a) Hardly had the function got over, the crowd dispersed.
- (b) Hardly have the function getting over, the crowd dispersed.
- (c) The function was not got over after the crowd were dispersed.
- (d) Hardly had got over the function, the crowd disperse.

68. Pick out the correct sentence from the following sentences.
- (a) Who had replaced the player after she was injured?
- (b) Who replaced the player after she were injured?
- (c) Who was replacing the player after she had been injured?
- (d) Who replaced the player after she was injured?

69. This question gives a word followed by four choices. From the choices, select the most suitable synonym (word which means the same) for the main word and mark its number as the answer.
OSTENSIBLE
- (a) strong
- (b) desirable
- (c) apparent
- (d) fateful

70. Pick out the synonym of the word 'Communicable':
- (a) Communication
- (b) Contagious
- (c) Commutation
- (d) Understandable

71. This question gives a word followed by four choices. From the choices, select the most suitable synonym (word which means the same) for the main word and mark its number as the answer.
FAMISHED
- (a) Agricultural
- (b) Hungry
- (c) Prestigious
- (d) Feasible

72. Fill in the blank with suitable form of verb. Read ; nor to believe; but to weigh and consider.
- (a) to not contradict
- (b) contradict not to
- (c) to contradictory
- (d) not to contradict

73. Read the following sentence and choose the best definition for the underlined word by searching for context clues in the sentence.
The attorney wanted to expedite the process, because her client was becoming impatient.
- (a) accelerate
- (b) evaluate
- (c) reverse
- (d) justify

74. Read the following paragraph and determine carefully the main idea. From the given four choices, select the one statement that best supports the author's point.
Critical Reading is a demanding process. To read critically, you must slow down reading and with pencil in hand, perform specific operations on the text. Mark-up the text with your reactions, conclusions and questions. When you read, you become an active participant.
This paragraph best supports the statement that
- (a) critical reading is a slow, dull, but essential process.
- (b) readers should get in the habit of questioning the truth of what they read.
- (c) the best critical reading happens at critical times in a person's life.
- (d) critical reading requires thoughtful and careful attention.

75. Pick out the correct sentence in passive voice of the following sentence.
He will finish the work in a fortnight.
- (a) He would be finished the work in that fortnight.
- (b) The work would be finished in that fortnight.
- (c) The work was finished by him in a fortnight.
- (d) The work will be finished by him in a fortnight.

76. Arrange the following parts of a sentence in order to make a meaningful sentence.
P: around the town Q:
when I was young,
R: delivering food to customers S:
shopkeepers would cycle
- (a) RSPQ
- (b) QSPR
- (c) SRPO
- (d) PQRS

77. Pick out the correct sentence in active voice of the following sentence;
Why was such a letter written by your father?
(a) Why had your father written such a letter?
(b) Why did your father wrote such a letter?
(c) Why did your father write such a letter?
(d) Why was your father writing such a letter?

78. Pick out the correct sentence from the following sentences.
(a) She doesn't like to gets up early.
(b) She doesn't likes to get up early.
(c) She doesn't like to get up early.
(d) She doesn't likes getting up early.

79. This question gives a word followed by four choices. From the choices, select the most suitable synonym (word which means the same for the main word and mark its number as the answer.
PALPABLE
(a) visible
(b) perceivable
(c) audible
(d) presentable

80. Read the following paragraph and determine carefully the main idea. From the four choices, select the one statement that best supports the author's point: Litigation is not always the only or best way to resolve conflicts. Mediation offers an alternative approach and it is the one that can be quite efficient and successful. Mediation can be faster, less expensive and can lead to create solutions not always possible in a court of

law. Additionally, mediation focuses on mutually acceptable solutions, rather than on winning or losing. This paragraph best supports the idea that
(a) there is too much reliance on litigation in our society.
(b) Litigation is expensive, slow and limited by its reliance on following the letter of the law.
(c) Mediation is the best way to resolve a crisis.
(d) Mediation can be an effective way to resolve conflicts.

81. Pick out the correctly spelt word.
(a) disastar
(b) documentation
(c) daviation
(d) dormitary

82. Pick out the correct sentence in indirect narration of the following sentence:
He said, "Let us wait for the award."
(a) He proposed him to wait for the award.
(b) He proposed that they should wait for the award.
(c) He agreed to wait for the award with him.
(d) He proposed me that I should wait for the award.

83. Pick out the correct sentence in indirect narration of the following sentence:
She said to him, "Please wait here till I return"
(a) She requested her to wait there till she returned.
(b) She requested him to wait there till she returned.
(c) She requested him to wait there till she returns.
(d) She requests him to wait there till she had returned.

84. Fill in the blank with suitable preposition. He put _____ his departure for a week.
(a) down
(b) off
(c) of
(d) on

85. Pick out the synonym of the word 'reproach'
(a) reprimand
(b) appreciate
(c) understand
(d) to approach again

86. Read the following sentence and choose the best definition for the underlined word by searching for context clues in the sentence.
Mr. Powers was so gullible that he believed even the most outlandish excuses of his insincere employees.
(a) intelligent
(b) naïve
(c) dishonest
(d) critical

87. This question has a word followed by four choices. From the choices, identify the one which is opposite in meaning (antonym) for the main word and mark its number as your answer.

CONSIDERATE

(a) Comprehensive   (b) Atrocious

(c) Malignant   (d) Indifferent

88. Fill in the blank with suitable form of verb.

A bird in the hand _____ worth two in the bush.

(a) are   (b) were

(c) was   (d) is

89. Fill in the blank with suitable preposition.

While going to Chandigarh, our car broke _____ in midway.

(a) apart   (b) up

(c) down   (d) into

90. Give meaning of the underlined idiom as used in the following sentence:

He requested her to reconsider the decision but she put her foot down.

(a) agreed to consider   (b) ignored

(c) listenedverycarefully (d) refused to yield.

Direction (Q.91-Q.94): Read the following passage carefully and answer the questions that follow.

The night was cold and dark. There was a great storm, thunder and lightning also. Most men and animals, adequately protected, were asleep in their homes. They were warm and happy. But some monkeys were running through the forest. They had no warm home and there was cold. Worried monkeys looked everywhere for shelter. They had almost resigned themselves to be flattened out by the cold. Suddenly they saw some fireflies. Now, fireflies have a light in their tails, as all our children know. The monkeys took the light for fire. Poor things, they did not know any better. They said, "We will go near the fire and warm ourselves

There was a flock of birds in a tree nearby. One bird had a kind heart, and it felt sorry for the monkeys. It called out, "That is not fire, my friends! Those are fireflies. They give no heat. It is futile to run after them." Then monkeys got furious and their rage knew no bounds. They did not thank the bird. One monkey said rudely. "Is it so? We do not want unsolicited advice. I will teach you to say there is no fire." He jumped up the tree and pulled the poor bird out of its nest. "Alas!' said the poor bird. "Why did I try to help a fool?"

91. The monkeys were running through the forest because they _____.

(a) were in search of food

(b) liked running about in dark

(c) were in search of a warm shelter

(d) wanted to kill the birds.

92. In the above passage, night is described as _____.

(a) lovely & attractive   (b) cold & stormy

(c) fit for hunting   (d) warm & thunderous

93. What happens when you try to help a fool?

(a) You get a lot of credit for it.

(b) You develop friendship with him.

(c) You may invite danger for yourself.

(d) You may harm him too.

94. The bird tried to help the monkeys because she _____

(a) gave an unsolicited advice.

(b) was kind and felt sorry for them.

(c) wanted to save the fireflies

(d) wanted to distract the monkeys.

95. Pick out the correctly spelt word.

(a) unequivocaly   (b) unequivocally

(c) enequivocally   (d) unequivocally

96. Pick out the part of sentence which has an error. If there is no error, mark the option "No Error".

writing the letter is often cheaper than telephoning

     A   B   C

(a) A   (b) B

(c) C   (d) No Error

97. Pick out the correct sentence from the following sentences.

(a) Due to his ill health, he decided to not perform on the stage.

(b) Due to his ill health, he decided not to perform on the stage.

(c) Due to his ill health, he did not decided to perform on the stage.

(d) Due to his ill health, he decide not to perform on the stage.

98. Arrange the following parts of a sentence in order to make a meaningful sentence.

P: an extra person Q:

this card entitles R:

with you free

S: you to take

(a) QSPR   (b) PQRS

(c) RPQS   (d) SQRP

99. Fill in the blank with a suitable form of verb. Time and tide _____ for none.

    (a) waits   (b) wait

    (c) waiting   (d) had waited

100. Fill in the blank with a suitable word.

There are more things in heaven and earth _____ are dreamt of in our philosophy

    (a) then   (b) thin

    (c) than   (d) where

ANSWER KEY AND EXPLANATIONS

1. **(b)** $\sin\theta - \cos\theta = 0$

   Or, $\sin\theta = \cos\theta$

   $\therefore \theta = \dfrac{\pi}{4}$

   $\sin^4\left(\dfrac{\pi}{4}\right) + \cos^4\left(\dfrac{\pi}{4}\right)$

   $\dfrac{1}{4} = \dfrac{1}{4} = \dfrac{1}{2}$

2. **(b)** $\sqrt{3} + \sqrt{5} = x$

   Multiple both side by $\sqrt{2}$,

   $(\sqrt{2})(\sqrt{3} + \sqrt{5}) = \sqrt{2}\,x$

   $\sqrt{6} + 2\sqrt{5} = \sqrt{2}\,x$

   $\Rightarrow \sqrt{(\sqrt{5} + \sqrt{1})^2} = \sqrt{2}\,x$

   $\Rightarrow \sqrt{5} + \sqrt{1} = \sqrt{2}\,x$

   $\dfrac{\sqrt{5} + \sqrt{1}}{\sqrt{2}} = x$

3. **(b)** $2x + 3y = 7$ ....(1)

   $2px + (p - q) = 28$ .... (2)

   If two equation have infinite solution then, they satisfy the condition

   $\dfrac{2}{2p} = \dfrac{3}{(p - q)} = \dfrac{7}{28}$

   Therefore $\dfrac{2}{2p} = \dfrac{7}{28} \Rightarrow p = 4$

   Also, $\dfrac{3}{(p - q)} = \dfrac{7}{28} \Rightarrow \dfrac{3}{4 - q} = \dfrac{1}{4} \Rightarrow q = -8$

   $\Rightarrow (p, q) \rightarrow (4, -8)$

4. **(d)** (A) Tangent touches the circle at exactly one point. So, statement A should be false.

   (B) Statement B must be true.

   (C) Statement C must be true because A tangent only touches the circle

   Ans. Option (d).

5. **(d)** Statement I :-

   We know Men $\times$ Days = Work. Applying this concept, we get

   $(4B + 8G) \times 5 = \dfrac{1}{3}$ work .... (1)

   $((4 + 3)B + (8 + 3)G) \times 3 = \dfrac{1}{3}$ work .... (2)

   RHS is equal so equating LHS, we get $(4B + 8G) \times 5 = (7B + 11G) \times 3$

   $7G = 1B$ .... (3)

   We know that $(7B + 11G)$ can do $\dfrac{1}{3}$ work in 3 days

   i.e. $49G + 14G = 60G$ (using eq.3) can do $\dfrac{1}{3}$ work in 3 days

   To complete $\dfrac{1}{3}$ work in 2 days we require

   $60G \times \dfrac{3}{2} = 90G$.

   It mean 30 more girls will be required and not 32. So, statement I is false.

   Statement II :- Ratio of time taken by A and C is $T_A : T_C = 1 : 2$

Therefore the ratio of their efficiencies

$E_A : E_C = 2 : 1$

Given, $\dfrac{E_A}{E_B} = 266\dfrac{2}{3}\%$ or $E_A = \dfrac{8}{3} E_B$

Or, $\dfrac{E_A}{E_B} = \dfrac{8}{3}$

$\therefore E_A : E_B : E_C = 6 : 8 : 3$

Given A can complete 6% work in 6 days. It means 100% work (complete work) in 100 days

If we assume his efficiency, E_A to be 6 unit/day. Therefore in 100 days total work done by him will be

$= 6 \times 100 = 600$ units

B & C together can complete this work in $\left(\dfrac{600}{8+3}\right)$ days

$\dfrac{600}{11} = 54\dfrac{6}{11}$ days.

Statement II is correct.

6. **(c)** Let Radii be 2x & 3x,

   Volume be 1y & 3y,

   Height be h_1 & h_2

   $\dfrac{V_1}{V_2} = \dfrac{\frac{1}{3}\pi r_1^2 h_1}{\frac{1}{3}\pi r_2^2 h_2}$

   $\dfrac{4}{3} = \dfrac{4\pi x^2 \times h_1}{4\pi x^2 \times h_2}$

   $\dfrac{4}{3} = \dfrac{h_1}{h_2}$

7. **(d)** Diameter of a circle inscribe in square

   $= 6$

   Radius = 3cm Area

   $= \pi r^2$

   $= (3)^2 \pi = 9\pi$

8. **(b)** Mean of 25 observation be 36

   Which mean sum $= 36 \times 25$

   $= 900$

Mean of 1st 13 observation be 32
which means sum = 32 × 13

= 416
Now, sum of 10st 12 observation = 900-416

= 484
Also, mean of lost 13 observation be 39. Which
means sum = 39 × 13
= 507
Now, sum of 10st 12th observation = 900 − 507
= 393
Subtract sum of 1st 12 observation of sum of lost 12
observation from the total sum to get term- - 13, 900 −
393 − 484
900 − 877
23 → term − 13th

9. **(c)** $P(A \cup B) = P(A) + P(B) - P(A \cap B)$.

= 0.25 + 0.50 − 0.14

= 0.61
Neither A or B = 1 − P(A∪B)
= 1- 0.61
= 0.39

10. **(b)** For the value of y, we need to check the sum of the divisor
of 220 should be equal to the sum of the divisor
of y.
Sum of all the divisor of 220
$= (\frac{2^3-1}{2-1}) (\frac{5^3-1}{5-1}) (\frac{11^3-1}{2-1})$
$= (\frac{7}{1}) (\frac{24}{4}) (\frac{120}{10}) = 504$
Therefore sum of all the proper divisors will be = 504 − 220 =
284
Thus the value y must be 284. Thus option (b).

11. **(b)** One dimension of the resultant cuboid will be

Length → 10
Breadth → 5
Height → 5
Total surface area = 2 (lb +bh+lh) 2(50+25+50) =
250 cm^2
Option = b

12. **(b)** 7200 → $2^5 \times 3^2 \times 5^2$
Total number of factors = (5+1) (2+1) (2+1)
= 6 × 3 × 3
= 54
But we don't have to include 1 & 7200 54 -2
= 52

13. **(d)** According to the question,

Let distance be D,
Let Upstream speed be (x-y)
Downstream speed be (x+y) Then,
according to the question,
$[\frac{D}{x+y}] = [\frac{D}{x-y}] \frac{1}{2}$
Statement I : speed of boat : speed of water
= 2 : 1

$[\frac{D}{2+1}] \neq [\frac{D}{2-1}] \frac{1}{2}$
Statement II : speed of boat : speed of water = 6 : 2
$[\frac{D}{6+2}] = \frac{1}{2} [\frac{D}{6-2}]$ which equal.
Statement I is false Statement II
is true

14. **(b)**

	Sol.	Un.
A	$\frac{1}{3}$	$\frac{2}{3}$
B	$\frac{1}{3}$	$\frac{1}{3}$
C	$\frac{1}{4}$	$\frac{2}{4}$

Probability that only two of hence one able to solve the
problem
= As Bs Cu + As Bu Cs + Au Bs Cs
$= \frac{1}{3} \times \frac{1}{3} \times \frac{3}{4} + \frac{1}{3} \times \frac{2}{3} \times \frac{1}{4} + \frac{2}{3} \times \frac{1}{3} \times \frac{1}{4}$
$= \frac{7}{36}$

15. **(b)** We know that,
Let $y + \frac{1}{y} = p$
Squaring both sides : $y^2 + \frac{1}{y^2} = p^2 - 2$
$7 (y + \frac{1}{y}) - 2 (y + \frac{1}{y}) = 9$
$7p - 2 (p^2 - 2) = 9$
$2p^2 - 7p + 5 = 0$
(2p - 5) (p - 1) = 0
$p = \frac{5}{2}$ or p = 1
$y + \frac{1}{y} = 1$ No real values of y exists for this equation.
Now, $y + \frac{1}{y} = \frac{5}{2}$
$2y^2 + 2 = 5y = 2y^2 -5y + 2 = 0$ (y
- 2) (2y-1) = 0
y = 2 $y = 1\frac{1}{2}$
So only one integral solution.

16. **(d)** (I) $x^2 + 3x + 1 = (x - 2)^2$
$x^2 + 3x + 1 = x^2 + 4 - 4x$ 7x
− 3 = 0
The given equation in statement (I) is not quadratic. So the
statement I is true.
Statement II : Given $x^2 + 2x \sqrt{3} + 3 = 0$ For
roots to be real & equal
D = 0
$(2\sqrt{3})^2 - 4 (1) (3)$
12 − 12
= 0
LHS = RHS
Statement II is true

17. **(d)** P + 60P + 3600P + 24 x 3600P + 24 x 7 x 3600P

P (1 + 60 + 3600 + 24 x 3600 + 24 x 7 x 3600) P x
694861. **Ans.**

18. **(b)** $\square^2 - 1$ is divisible by 8.

Put k = 1, $\square^2 - 1$ is div. by 8 k

= 3, $\square^2 - 1$ is div. by 8

That means, $\square^2 - 1$ is divisible by 8 when k is an odd number.

19. **(c)** Statement I: difference : sum : product 1 : 5 : 12

Let take the values as 1x, 5x, 12x. Given, 12

x = 18

12x = 18

x = 1.5

But difference of two number can never be 1.5.

Statement II: Unit digit of 2^{91} will be 8 not 6

∴ Both statement (I) & statement (II) are false.

20. **(a)** Statement (I) Volume $= \pi \square^2 h$

$V = \frac{22}{7} \times 7 \times 7 \times 10$

V = 1540

I is correct

Statement (II) TSA $= 2\pi rh + 2\pi \square^2 h$ TSA

$= 2\pi r (h + r)$

$= 2 \times \frac{22}{7} \times 14 (14 + 30)$

= 3872

∴ Both statements (I) & (II) are true.

21. **(a)** Cost price

A	B
5x	6x

10% profit on A = 0.5x 10%

profit on B = 0.6x Total profit

on both = 1.1x

1.1x = 22

X = 20

A, cost price = 100 B,

cost price = 120

Now 20% loss on A = 20 30%

profit on B = 36 Over all

profit = 16

Ans. a

22. **(b)** $F(x) = 2\square^3 + \square\square^2 + \square\square + 3$

F(x) = 0 at x = 1

$0 = 2(1)^3 + \square(1)^2 + b(1) + 3$

-5 = a + b.............,(i)

$15 = 2(-2)^3 + \square(-2)^2 + b(-2) + 3$

15 = - 16 + _4a - 2b + 3

28 = 4a - 2b

14 = 2a - b ------------- (ii)

Solve eq (i) & (ii),

You will get a = 3 b

= - 8

Ans. b

23. **(b)** Volume of a well = volume of the platform

$\pi \square^2 h = l \times b \times h$

$\frac{22}{7} \times 3.5 \times 3.5 \times 30 = 22 \times 14 \times h$

3.75m = h

24. **(a)** (i) The probability of getting even sum on the throw of 2 dies

$= \frac{18}{36} = \frac{1}{2} = 0.5$

(i) is correct

(ii) the probability of getting product as even (1,2),

(1,4), (1,6)

(2,1), (2,2), (2,3), (2,4), (2,5), (2,6)

(3,2), (3,4), (3,6)

(4,1), (4,2), (4,3), (4,4), (4,5), (4,6)

(5,2), (5,4), (5,6)

(6,1), (6,2), (6,3), (6,4), (6,5), (6,6)

Favourable outcomes = 27

$\frac{27}{36} = \frac{3}{4} = 0.75$

Both (i) & (ii) one true

25. **(a)** 5a32465b

For divisible by 88. The numbers should by divisible by 8 & 11.

For last 3 digit to be divisible by

8 the last these numbers should be 656 Now, the

numbers become = 5a324656.

Sum of energy alternate digits starting from a = 14 + a & sum of every remaining numbers will be 17

Now, their difference should be divisible by 11 17 – (14 + a)

17-14-a = 3-a

For (3-a) to be divisible by 11 Only a = 3 is possible

Now, 2a + 5b 2

× 3 + 5 × 6

= 36

Ans. a

26. **(d)** Sum of first hundred even natural numbers divisible by 5 is 45050

10, 20, 30,…………

$$S_n = \frac{n}{2}[2a + (n-1)d]$$

$$= \frac{100}{2}[2 \times 10 + (100 - 1) \times 10]$$

$$= 50 [20+990]$$

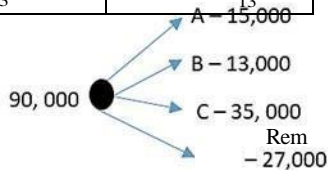$$= 50 \times 1010$$

$$= 50500 \text{ Ans}$$

(I is false)

(ii) this is true as this is the simple sum formula of an A.P

Option D

27. **(b)** No. of intersection with x –axis = 3 so, number of zeros will be equal to 3.

28. **(c)**

Sin C = $\frac{12}{13}$	Cos C = $\frac{5}{13}$

$$A = P (1 + \frac{r}{100})^n$$

$$A = 27,000 (1 + \frac{15}{100})^2$$

$$27,000 \times (\frac{23}{20})^2$$

A= 35, 707.5

The 63,000 will becomes 80% of itself of 2 years

$$63,000 \times \frac{80}{100} = 50400$$

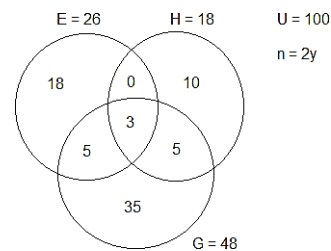Total amount after 2 years = 35,707.5 + 50, 400 = 86107.5

Total percentage change = $\frac{3892.5}{90,000} \times 100$
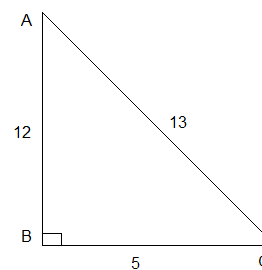
= 4.325% decrease

29. **(d)** By using the information available

All A, B & C are correct Ans. d

30. **(d)**

AC = AB + 1

Which means

Only triplets which

Satisfied the given conditions (5, 12, 13) = (BC, AB, AC)

$$1+ \frac{1}{13} = \frac{25}{} \times \frac{13}{}$$

$$\frac{}{1+\frac{5}{13}} \quad 13 \quad 18$$

$$= \frac{25}{13}$$

31. **(c)** Circumference - Radius = 37 2π

$$r - r = 37$$

$$r (2 \times \frac{22}{7} - 1) = 37$$

$$r = \frac{37 \times 7}{37}$$

$$r = 7$$

Circumference = $2\pi r$

$$= 2 \times \frac{22}{7} \times 7$$

$$= 44cm$$

32. **(d)** (A) this statement is true because if y is the average. It means x, y, z are in A.P.

Means 2y = x + z

(B) this statement is also true because the median of given expression = 43

(C) This statement is true mode = 3 All

A, B & C one correct.

33. **(c)** Total number of matches =

Total numbers of players – 1

= 300-1

= 299

Total numbers of matches = 299

Hint [34 – 37]:

Student	Subject (Maximum Marks)					
	Physics (120)	Biology (120)	Maths (120)	Geology (120)	Economics (120)	English (120)
A	70%% (84)	75% (90)	70% (84)	65% (78)	60% (72)	70% (84)
B	80% (96)	70% (84)	75% (90)	68% (72)	50% (60)	75%(90)
C	75% (90)	72% (86.4)	71% (85.2)	70% (84)	60%(72)	65%(75)
D	60%% (72)	70% (84)	65% (78)	55% (66)	60% (72)	70%(54)
E	70%% (84)	75% (90)	65% (78)	50% (60)	55% (66)	60% (72)
F	65% (78)	70% (84)	60% (72)	65%(78)	50% (60)	60%(72)

34. **(a)** For 65% overall in all subjects.
     65% of 720 = 468 (Minimum marks)
     Student A → 84+90+84 +78+72+84=492
     Student B → 96+84 +90+ 72+60+90=492
     Student C→90 + 86.4 + 85.2 +84 +72+78=495.6.
     3 students A, B, C **(Option a)**

35. **(b)** Use above DI
     A→ 84+90+84 +78+72+84=$\frac{492}{720}$×100=68.33
     B→ 96+84+90+72+60+90=$\frac{492}{720}$×100=68.33
     C→ 90+86.4+85.2+884+72+78= $\frac{495.6}{720}$ × 100 = 68.83
     Option (c) is closest.

36. **(a)** Biology ⇒ 90+84+86.4+84+90+84 = 518.4
     (Biology %) $\frac{518.4}{720}$ × 100 = 72%
     (Option a)

IPMAT TWO YEAR FOUNDATION COURSES

37. **(d)** Economics → 72 + 60 + 72 + 72 + 66 + 60 = $\frac{402}{6}$ =
     67
     Physics → 84 + 96 + 90 + 72 + 84 + 78 = $\frac{504}{6}$
     = 84 **(Option d)**

38. **(c)** A→45% (2005)
     Sales of A increased by 50% in 2006

A sales (2006=67.5)
E→22% (2005)
E(Increased sales)= 24.2%
Now overall sales in 2006⇒ 124.7% =216000
45% = $\frac{45×216000}{124.7}$
=77947 (approx) **(Option c)**

39. **(c)** Increased sales of A=67.5%
     Increased sales of E=24.2%
     So overall increased in sales (2006) = 124.7 sales
     in (2005) - 100%
     24.7% increased. **(Option c)**

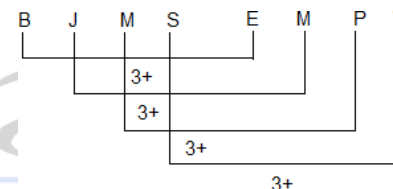40. **(b)** B(2005) = 15%   A(2005)=45%
     B(2006) = 16.5%   B(2006)=40.5%
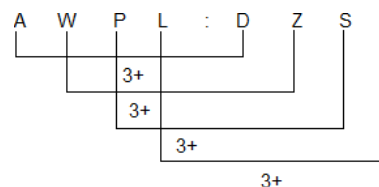   Increased = 1.5%   Decreased = 4.5 Net
     Decreased by =1.5%-4.5%
     = -3% decreased **(Option b)**

41. **(c)**

B J M S   E M P V

Similarly,

A W P L : D Z S O

Hence option c.

42. **(c)** As per given information, we get following order of people

B > D > E > C > A

Hence, B ran at the fastest speed

43. **(b)** week→28.3+15-4+40.2 = 83.9
     week 2 → 24.5 +12.3 + 36.1 = 72.9
     week 3 → 20.4 + 14.2+42.9 = 77.5
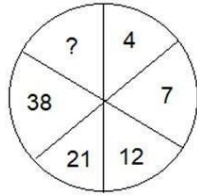   week 4 → 24.4 + 15.7 + 39.8 = 79.9
     Second Highest week 4
     (Option b)

44. **(d)** →28.3+24.5+20.4+24.4
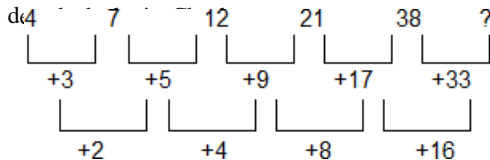
$\rightarrow \frac{9760}{4} = 2440$

(Option d)

45. **(c)**

(Starting From 4)

If we check the number in the form of series, if will be easy to do.

4   7   12   21   38   ?

+3   +5   +9   +17 +33

+2   +4   +8   +16

38 + 33 = 71 will be the missing number. Hence, correct option is (c)

46. **(c)**

Person	Game	City
P	Chess	Bombay
Q	Football	Calcutta
R	Cricket	Ahmedabad
S	Tennis	Jaipur

Hence, option (c) is correct answer.

47. **(d)** when we the letter to get meaningful word as-
1. SPARROW
2. PIGEON
3. PARROT
4. BRINJAL

Clearly, BRINJAL is different from first three words, as this is vegetable but first three are 'birds' hence. Optional is (d) correct.
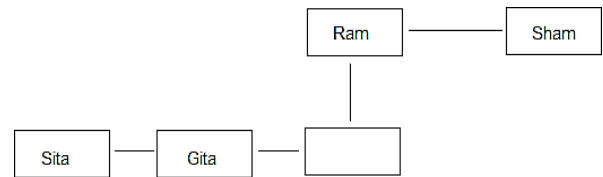
48. **(b)** After unscramble the letters in the given words in order to get meaningful words, we get-
1. WINTER
2. CLOUD
3. SUMMER
4. SPRING

As we know that WINTER, SUMMER and SPRING one season homes while CLOUD is different.
Hence. Optional is (b) correct.

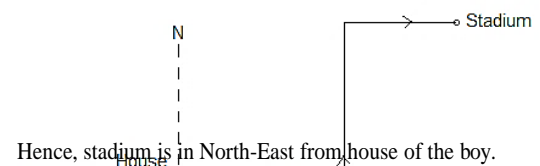49. **(c)**

Hence, Sham is uncle of Sita. So option (c) is correct answer.

50. **(c)** Ecology is the study of the environment, and it helps as understand how organisms live with each other in unique physical environments. Histology is the study of tissues and their structure. Hence. Optional is (c) correct.

51. **(d)** I did not play a game implies that the game was not interesting
Hence. Optional is (d) correct.

52. **(d)**

Hence, stadium is in North-East from house of the boy.
Hence. Optional is (d) correct.

53. **(c)** According to both Sham and Shalini, The common dates of Ram's birthday may be- 16, 17, 18, 19 October.
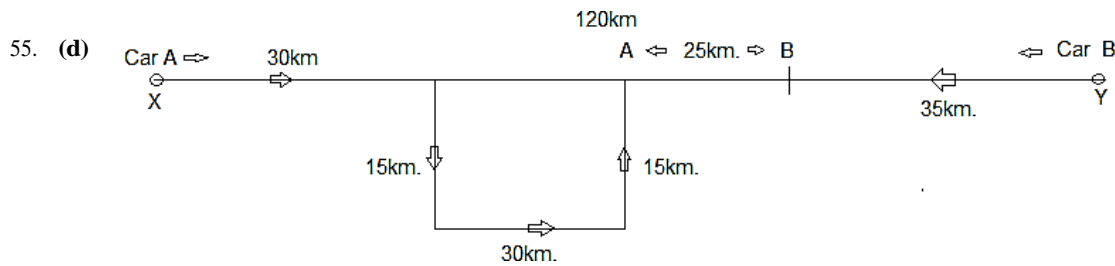As this is given that this year, his birthday falls on 'Wednesday'
Now, if 2nd Oct. is Monday so 4th Oct will be Wednesday
11th, 18th Oct will also be Wednesday.
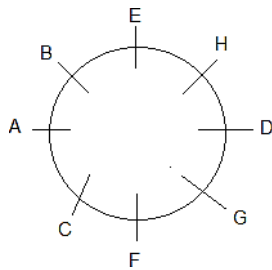Hence. Optional is (c) correct.

54. **(c)** As per given information

Environment Science
Statistics
Commerce
Botany
Electronics
Chemistry

So Environment science is on the top Hence.
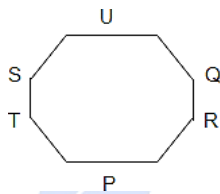Optional is (c) correct.

55. **(d)**

Hence. Optional is (d) correct.

56. **(a)** We can arrange the given data as

So 'C can F' sit between G and A Hence.
Optional is (a) correct.

57. **(c)**

So Q is between U and R. Hence.
Optional is (c) correct.

58. **(d)** 10 11 13 17 25 32 37
We can get next term by adding sum of digit of number in number itself as-
10 + sum of digit of 10 = 10 + (1+0) = 11, 11 + sum of digit of 11 = = 11 + (1+1) = 13
13 + (1+3) = 17,
17 + (1+7) = 25,
25 + (2+7) = 32,
32 + (3+2) = 37,
37 + (3+7) = 47,

Hence. Optional is (d) correct.

59. **(b)** When the hour hand moves 135 degrees is to use the fact that the hour hand covers 0.5 for every minute. Given that the hour hand needs to move 135 degrees, we can set up the equation:
Angle covered by hour hand =$0.5° \times$ Number of minutes
Let
Number of minutes be the time in minutes after 3:00 p.m.
$135°=0.5°\times$Number of minutes
Now, solve for the number of minutes:
Number of minutes=$135°/0.5°=270$
So, the hour hand will take 270 minutes to move 135 degrees. Now, add these minutes to the initial time of 3:00 p.m.:
3:00 p.m.+ 270 minutes = 7:30 p.m.

60. **(a)** The correct option is **(a)**.
2008 was a leap year.
A leap year has two odd days.
Suppose year 2008 starts with Monday.
Then the first day of 2009 was Wednesday.
Now,
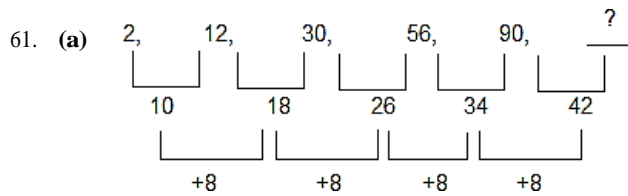First day of 2010 → Thursday
First day of 2011 → Friday
First day of 2012 → Saturday
Because 2012 was a leap year, First day of 2013 → Monday.
First day of 2014 → Tuesday
First day of 2015 → Wednesday
Thus, the calendar for the year 2009 was the same as that of the year 2015

61. **(a)**

$\therefore$ 90 + 42 = 132

Hence, option (1) is correct answer.

62. **(d)** Word 'SALUTE' can not be formed from the letters of the word 'CONSULTATION' as letters 'E' not in it. Hence, option (d) is correct answer.

63. **(d)** Logic: we can get code by multiplying place value of opposite letters, as

H	E		Similarly G
S	V		O
19	22		T L
And $19 \times 22 = 418$			20 12
			And $20 \times 22 = 240$

Hence, option (d) is correct answer. SO, S

H	E
H S V	and $8 \times 19 = 22 = 334$
8 19 22	

64. **(d)** Here, two series are together at alternate place, as-

So, 30 + 6 = 36

Hence, option (d) is correct answer.

65. **(a)**

Similarly

Hence, option (a) is correct answer.

66. **(a)** At 7 : 15 =

Minute Hand = 15 min $\xrightarrow{\times 6°}$ 90° Hour

Hand = 7Hr 15 min $\xrightarrow{}$ 24.5°

Difference = 217.5° - 90° = 127.5°

At 9 : 15 =

Minute Hand = 15 min $\xrightarrow{\times 6°}$ 90°

Hour Hand = 9Hr 15 min $\xrightarrow{}$ 277.5°

Difference = 277.5° - 90° = 187.5°

At 4 : 30 =

Minute Hand = 30 min $\xrightarrow{\times 6°}$ 180° Hour

Hand = 4Hr 30 min $\xrightarrow{}$ 135.5°

Difference = 180.5° - 145° = 45°

At 2 : 30 =

Minute Hand = 30 min $\xrightarrow{\times 6°}$ 180°

Hour Hand = 2Hr 30 min $\xrightarrow{}$ 75°

Difference = 105°

So option (a) is the correct answer.

67. **(a)** This sentence is in the correct past perfect tense structure. The use of 'Hardly had' is the correct inversion for expressing a sense of surprise or rarity in the past. With 'hardly' we use either 'had' or 'did' as helping verbs. 'The function got over' is the correct past tense form of the verb 'get over, and 'the crowd dispersed' is the correct past tense form of the verb 'disperse'. The other options have grammatical errors or incorrect tense structures.

68. **(d)** 'Who replaced the player' should be written in simple past tense to inquire about a specific action in the past. 'After she was injured' is also in the correct past tense to indicate the sequence of events.

Option (a) The use of 'had replaced' suggests the action is in past perfect tense, which is not necessary in this context.

Option (b) 'She were injured' is incorrect; it should be 'she was injured' because we always use singular verb with singular subject.

Option (c) 'Who was replacing the player' is in the past continuous tense, which is not what the sentence is conveying.

69. **(c)** The word 'ostensible' means something that appears or seems to be true or real, but may not actually be the case. Among the given options, 'apparent' is the most suitable synonym for 'ostensible' as it also carries the meaning of something that is visible, evident, or perceived, but not necessarily true. The other options do not convey the same meaning as 'ostensible'.

Option (a) 'strong' means having power or physical strength.

Option (b) 'desirable' means worth having or seeking. Option (d) 'fateful' means having significant consequences or being important in a significant way.

70. **(b)** The word 'communicable' refers to a disease or infection that can be transmitted from one person or organism to another through direct or indirect contact. A synonym for 'communicable' in this context is 'contagious', which means capable of being transmitted from person to person through contact.

Option (a) 'Communication' refers to the exchange of information or messages.

Option (c) 'Commutation' refers to the act of changing or substituting.

Option (d) 'Understandable' means easy to comprehend or perceive.

71. **(b)** The word 'famished' means extremely hungry or starving. Among the given options, 'hungry' is the most suitable synonym for 'famished' as it carries the same meaning of experiencing a strong need for food due to extreme hunger.

Option (a) 'Agricultural' pertains to farming or related to agriculture.

Option (c) 'Prestigious' means having high status or reputation.

Option (d) 'Feasible' means possible or practical.

72. **(d)** The correct form is 'not to contradict'. The sentence is stating that the purpose is not to contradict, nor to believe, but to weigh and consider.

Option (a) 'to not contradict' is grammatically incorrect. Option (b) 'contradict not to' is not the correct order and doesn't fit the sentence context.

Option (c) 'to contradictory' is not the correct phrase to complete the sentence properly.

73. **(a)** In the sentence, the word 'expedite' is used to describe the attorney's action regarding the process. The context clues provided are 'wanted to' and 'because her client was becoming impatient'. These clues suggest that the attorney is taking action to speed up or make the process faster. The word 'expedite' means to accelerate or speed up a process, which aligns with the context of the sentence.

Option (b) 'evaluate' means to assess or judge, which not the same as making a process faster is.

Option (c) 'reverse' means to go backward or undo, which is opposite in meaning to the context of making something faster.

Option (d) 'justify' means to provide reasons or explanations for something, which is not the same as accelerating a process.

74. **(d)** The paragraph emphasizes the demanding nature of critical reading and provides instructions on how to engage in it. The phrases 'slow down reading', 'perform specific operations on the text', 'Mark-up the text with your reactions, conclusions and questions', and 'you become an active participant' all highlight the need for thoughtful and careful attention when engaging in critical reading. This supports the idea that critical reading requires focused and careful consideration. Option (a) The paragraph doesn't suggest that critical reading is dull; rather, it highlights the need to slow down and engage actively.

Option (b) While questioning what is read is part of critical reading, the paragraph is broader in scope and discusses various actions involved in critical reading. Option (c) The paragraph doesn't mention critical times in a person's life; it focuses on the process of critical reading itself.

75. **(d)** The original sentence is in the active voice: 'He will finish the work in a fortnight'. To convert this into the passive voice, the structure should be - Subject + will be + past participle + by + agent.

In option (d), the sentence 'The work will be finished by him in a fortnight' maintains the passive voice while accurately reflecting the original sentence's meaning. The other options either have incorrect passive constructions or do not match the original sentence's tense and structure:

Option (a) Incorrect passive construction.

Option (b) The passive voice construction is correct, but the tense is not the same as the original sentence. Option (c) The passive construction is correct, but the tense is changed from future to past, altering the meaning of the sentence.

76. **(b)** Meaningful sentence: When I was young, shopkeepers would cycle around the town delivering food to customers.

Explanation: The correct order forms a coherent sentence that conveys a clear meaning. The sentence talks about a past practice where shopkeepers would use bicycles to deliver food to customers around the town.

77. **(c)** The original sentence is in passive voice - Why was such a letter written by your father? To convert this

into active voice, the sentence should be in the form 'subject + verb + object'.

In option (c), the sentence 'Why did your father write such a letter?' maintains the active voice and accurately reflects the original sentence's meaning. The other options have incorrect active constructions or do not match the original sentence's structure.

Option (a) Incorrect active construction.

Option (b) 'did your father wrote' is incorrect; it should be "did your father write."

Option (d) This option changes the tense and structure, and it's not a proper conversion of the original passive sentence to active voice.

78. **(c)** The correct structure in this case uses the base form of the verb 'get' after 'like'. The auxiliary verb 'does' is already in the present tense, so the verb that follows it should be in its base form, 'get', without the addition of '-s' as in the third person singular.

Option (a) 'gets' should be 'get'.

Option (b) 'likes' should not have the '-s' ending after 'doesn't'.

Option (d) 'likes' should not have the '-s' ending after 'doesn't' and the structure is not correct with 'getting up'.

79. **(b)** The word 'palpable' means something that is easily perceptible, noticeable, or able to be felt. Among the given options, 'perceivable' is the most suitable synonym for 'palpable' as it also refers to something that can be perceived or easily detected.

Option (a) 'visible' refers to something that can be seen, but 'palpable' encompasses more than just visual perception.

Option (c) 'audible' refers to something that can be heard, which is not synonymous with 'palpable'.

Option (d) 'presentable' refers to something that is suitable for being presented, which is not synonymous with 'palpable'.

80. **(d)** The paragraph discusses the advantages of mediation as an alternative approach to resolving conflicts compared to litigation. It highlights that mediation can be faster, less expensive, and can lead to creative solutions not always achievable in a court of law. The statement 'Mediation can be faster, less expensive and can lead to create solutions not always possible in a court of law', directly supports the idea that mediation can be an effective way to resolve conflicts.

Option (a) The paragraph doesn't specifically state that there is 'too much reliance' on litigation.

Option (b) While the paragraph mentions limitations of litigation, it does not explicitly mention that litigation is expensive, slow, and limited by following the letter of the law.

Option (c) The paragraph does not claim that mediation is the absolute best way to resolve a crisis, but rather that it is an effective alternative to litigation.

81. **(b)** The correct spelling is – Documentation

Option (a) – Disaster

Option (c) – Deviation

Option (d) – Dormitory

82. **(b)** The original sentence is in direct speech, and the reported version should be changed to indirect speech. The key elements to remember are the change of pronouns and the appropriate reporting verbs. In this case, 'proposed' is the suitable reporting verb, and the pronoun 'us' should change to 'they'.

The correct indirect narration is: He proposed that they should wait for the award.

The other options have errors in reporting or incorrect changes of pronouns:

Option (a) Incorrect: The reported version uses 'proposed' correctly, but the pronouns are incorrect. Option (c) Incorrect: This option changes the meaning by introducing 'agreed to wait', which is not the same as the original sentence's meaning.

Option (d) Incorrect: The reported version has incorrect changes of pronouns and a mismatch in the reporting verb.

83. **(c)** The original sentence is in direct speech, and the reported version should be changed to indirect speech. The reporting verb 'said' is changed to 'requested', and the pronouns and tenses are modified accordingly. In the reported version, 'him' remains the same, 'wait here' becomes 'wait there', and 'I return' becomes 'she returned'.

The correct indirect narration is: She requested him to wait there till she returned.

Option (a) The pronoun change is correct, but the tenses are incorrect.

Option (c) The tenses are incorrect; 'she returns' should be changed to 'she returned'

Option (d) The tenses are incorrect; 'she had returned' is not needed.

84. **(b)** The correct sentence is: He put off his departure for a week. The phrase 'put off' means to postpone or delay something. In this context, it means that he delayed his departure for a week.

Option (a) 'put down' means to place something on a surface, but it doesn't convey the idea of postponing. Option (c) 'put of' is not a correct phrase.

Option (d) 'put on' means to wear something, but it doesn't convey the idea of postponing.

85. **(a)** The word 'reproach' means to express disapproval or disappointment, often in a critical or blameful manner. 'Reprimand' is a synonym for 'reproach' as it also

refers to a rebuke or criticism, indicating disapproval or scolding.

Option (b) 'appreciate' means to value or recognize the worth of something.

Option (c) 'understand' means to comprehend or grasp the meaning of something.

Option (d) 'to approach again' is a different phrase and does not carry the same meaning as 'reproach.'

86. **(b)** The word 'gullible' refers to someone who is easily deceived or fooled, often due to a lack of critical thinking or skepticism. Among the given options, 'naïve' is the most suitable synonym for 'gullible' as it carries the same meaning of being easily influenced or deceived due to a lack of experience or sophistication. Option (a) 'intelligent' means having a high level of mental ability or understanding.

Option (c) 'dishonest' means not truthful or lacking integrity.

Option (d) 'critical' means expressing disapproval or making judgments, which is not synonymous with 'gullible'.

87. **(d)** The word 'considerate' means being thoughtful, caring, and showing concern for the feelings and needs of others. The opposite of being considerate is being 'indifferent', which means lacking interest, concern, or empathy for others.

Option (a) 'Comprehensive' means complete or including a wide range of subjects.

Option (b) 'Atrocious' means extremely bad or horrifying, not opposite to 'considerate'.

Option (c) 'Malignant' means harmful or malevolent, not opposite to 'considerate'.

88. **(d)** The phrase 'A bird in the hand is worth two in the bush' is a common idiom, meaning that it's better to have something certain or real (the bird in your hand) than to risk losing it by trying to get something else that seems better but is uncertain (the two birds in the bush).

89. **(c)** The correct sentence is: While going to Chandigarh, our car broke down in midway.

The phrase 'broke down' is used to describe the situation when a vehicle stops working suddenly or experiences a mechanical failure. In this context, the correct preposition to use is 'down'.

Option (a) 'broke apart' means to separate into pieces, which is not the same as a mechanical failure.

Option (b) 'broke up' typically refers to the end of a relationship, not the situation of a car breaking down. Option (d) 'broke into' means to forcibly enter a place.

90. **(d)** The correct answer is (d) refused to yield.

The idiom "put her foot down" in this context means that she firmly and decisively refused to change her decision or yield to the request.

91. **(c)** The monkeys were running through the forest because they were in search of a warm shelter. This is evident from the passage where it is mentioned, "Worried monkeys looked everywhere for shelter."

92. **(b)** In the above passage, night is described as cold & stormy. This is evident from the passage where it mentions, "The night was cold and dark. There was a great storm, thunder and lightning also."

93. **(c)** When you try to help a fool, you may invite danger for yourself. This is evident from the passage where the bird, out of kindness, tried to help the monkeys by correcting their misunderstanding about the fireflies, but it ended up being pulled out of its nest by an angry monkey, which put the bird in danger.

94. **(b)** No The correct answer is (b) she was kind and felt sorry for them.

The bird tried to help the monkeys out of kindness and sympathy for their situation. The text mentions that the bird had a kind heart and felt sorry for the monkeys who were cold and looking for shelter. The bird attempted to guide them by informing them that the light they saw was not a real fire, but rather fireflies that give no heat. Unfortunately, the monkeys reacted with anger and did not appreciate the bird's advice, leading to an unfortunate outcome.

95. **(b)** is the correct answer.

96. **(d)** The sentence is logically and grammatically correct.

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97. **(b)** In this sentence, the correct structure is 'he decided not to perform on the stage'. The placement of the word 'not' is important; it should come after the verb 'decided'. This creates the correct negative form of the sentence.

Option (a) 'to not perform' is not the correct structure; it should be 'not to perform'.

Option (c) 'did not decided' is incorrect; it should be 'did not decide'.

Option (d) 'decide not to perform' is the correct structure, but the verb tense should be in the past, 'decided', to match the context.

98. **(a)** Meaningful sentence: This card entitles you to take an extra person with you free.

The correct order forms a coherent sentence that conveys a clear meaning. The sentence talks about a card that grants the holder the privilege to bring an extra person along for free.

99. **(a)** The correct sentence is: Time and tide waits for none. The phrase 'Time and tide waits for none' is a well-known proverb, and in this context, the correct form of the verb to use is 'waits'. The proverb suggests that time and opportunities do not wait for anyone; they keep moving forward regardless of our actions.

Option (b) 'wait' is the base form of the verb, but the correct form here is the third person singular 'waits'. Option (c) 'waiting' is the present participle form of the verb, which is not the correct form for the proverb.

Option (d) 'had waited' is the past perfect tense, which is not the correct tense for this context

100. **(c)** The correct sentence is: There are more things in heaven and earth than are dreamt of in our philosophy. The phrase 'more things in heaven and earth than' is part of a famous quote from William Shakespeare's play 'Hamlet'. In this context, 'than' is the correct word to use, indicating a comparison between the number of things in heaven and earth and the things that are dreamt of in philosophy.

Option (a) 'then' is used to indicate a sequence of events or time, which is not appropriate here.

Option (b) 'thin' is an adjective meaning having little thickness or being slim, and it does not fit the context. Option (d) 'where' indicates a location or place, which does not make sense in this context.