

Previous Years' Paper
Common University Entrance Test

CUET-PG-MBA Entrance Exam, 2022

(Exam held on 12/09/2022)

1. From among the four options given, choose the pair of phrases that will be the most suitable to complete the following and make a meaningful sentence:

When the police offered him a lighter punishment if he gave them the names of his accomplices, the robber decided to _____ and _____.

- A. bite the bullet; break a leg
 - B. call it a day; go back to the drawing board
 - C. it's the best thing since sliced bread; sit on the fence
 - D. spill the beans; call it a day
2. From among the four options given, choose the one word substitute for the phrase 'occurring once every two years'
- A. Biannual
 - B. Annual
 - C. Monthly
 - D. Biennial
3. Choose the option which is closest to the meaning of the word.
- Archetypal
- A. Convival
 - B. Sanctimonious
 - C. Quintessential
 - D. Ubiquitous
4. Find out the correct meaning of the following idiom:
- To have sticky fingers
- A. A propensity to steal
 - B. To eat a lot

- C. Taking bribe
- D. Being miser

5. From among the four options given, choose the one word substitute for the phrase 'lean and haggard'

- A. Gaunt
- B. Strong
- C. Overweight
- D. Athletic

6. Choose the correct order of the paragraph to create a meaning out of PQRS set:

Contemporary imperialism is,

- P. but also through the attempt to control hearts and minds,
- Q. taken to a higher level than ever before-through fire and sword,
- R. exercising to a maximum degree a rationalized violence
- S. in a real sense, a hegemonic imperialism.

- A. PQRS
- B. SRQP
- C. RSPQ
- D. QRSQ

7. Identify the correct indirect speech form of the following sentence:

"Please give me the lecture notes I need," he said.

- A. He requested to give me the lecture notes.
- B. He said to give me the lecture notes.
- C. He requested that I gave him the lecture notes.
- D. He asked for the lecture notes.

8. Find out which part of the sentence has an error, if there is no error, mark option (D).

- A. urbanization, industrialization and transport development
- B. with the rise of the standard for living of the people
- C. there has been a rapid increase in the demand for electricity
- D. no error

9. Match List I with List II:

List-I
(Foreign Phrases
in English)

List-II
(Meaning)

- | | |
|--------------------|------------------------------|
| (a) Status quo | I. Way of doing things |
| (b) Corpus delicti | II. Current state of affairs |
| (c) Modus operandi | III. What will be, will be |
| (d) Que sera sera | IV. Evidence of a crime |

Choose the correct answer from the options given below:

- | | | | |
|-------|-----|-----|-----|
| (a) | (b) | (c) | (d) |
| A. IV | III | II | I |
| B. II | IV | I | III |
| C. I | III | IV | II |
| D. II | III | I | IV |

10. From among the four options given, choose the correct sequence of the four phrases given below, to make a meaningful sentence:

- (a) February 21, 2022
- (b) the world witnessed
- (c) a rare and somewhat
- (d) unexpected sight on

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

11. Choose the correctly spelt word from the following:

- A. malvolence
- B. malevolence

- C. malevolence
- D. malvolence

12. From among the four options given, choose the grammatically correct sentence:

- A. Four key stakeholder are integral to the supply for foodgrains in the country
- B. Four key stakeholders are integral to the supply for foodgrains in the country
- C. Four key stakeholders is integral to the supply for foodgrains in the country
- D. Fourth keying stakeholders are integral to the supply for foodgrains in the country

13. From among the four options given, choose the pair of words that are synonymous

- A. conversion – controversy
- B. envisage – face
- C. defer – postpone
- D. strong – sluggish

14. From among the four options given, choose the pair of phrases that will be the most suitable to complete the following and make a meaningful sentence:

Although the two friends did not _____ on many things when they were younger, they were able to _____ as they matured and their friendship lasted for many years.

- A. hit the nail on the head; bite the bullet
- B. see eye to eye; let bygones be bygones
- C. see eye to eye; call it a day
- D. break a leg; let bygones be bygones

15. Find out which part of the sentence has an error, if there is no error, mark option (D).

- A. Western feminist discourse and political practice
- B. is neither singular nor homogeneous in
- C. its goals, interests or analyses
- D. No error

16. From among the four options given, choose the correct sequence of the four phrases given below, to make a meaningful sentence:

- (a) of the semester is that
- (b) the very first thing I

(c) they will need to read a lot of books for this course

(d) tell my students on the first day

A. (c), (a), (d), (b)

B. (b), (d), (a), (c)

C. (a), (b), (c), (d)

D. (d), (c), (b), (a)

17. From among the four options given, choose the one word substitute for the phrase 'a practice or trial performance of a play or any other artistic work for public performance later'

A. Matinee

B. Rehearsal

C. Trailer

D. Interval

18. From among the four options given, choose the most appropriate idiom that can be used to fill in the blank in the following sentence:

The dress she wanted was not available in her size and this turned out to be _____ as the one she finally bought was much nicer.

A. on the ball

B. the last straw

C. better late than never

D. a blessing in disguise

19. From among the four options given, choose the correct sequence of the four phrases given below, to make a meaningful sentence:

(a) depending upon what you do there

(b) or detrimental for your mental health

(c) the Internet can be helpful

(d) spending chunks of your day on

A. (d), (c), (b), (a)

B. (b), (a), (d), (c)

C. (a), (b), (c), (d)

D. (c), (d), (a), (b)

20. From among the four options, choose the word that is similar in meaning to 'abbreviate'

A. Shorten

B. Translate

C. Edit

D. Lengthen

21. From among the four options, choose the one word substitute for the phrase a person who speaks more than one language.

A. Polygamist

B. Polygon

C. Polyglot

D. Polytheist

22. From among the four options given, choose the idiom that will be the most suitable to complete the following and make a meaningful sentence:

When the exams were approaching, the teacher told the students, "I have completed the syllabus and now _____"

A. the ball is in your court

B. it's time to go back to the drawing board

C. it's time to hit the sack

D. your guess is as good as mine

23. Find out which part of the sentence has an error, if there is no error, mark option (D).

A. The roles we associate with women are not

B. have given to them in birth, by virtue of their biology

C. but rather are socially constructed

D. No error

24. From among the four options given, choose the one which is a grammatically correct sentence.

A. Fill in the name and addresses of the person you wish to gifted the subscription form and ticks the box on top in the page

B. Filled in the names and address of the person you wishing to gift the subscription to and ticking the boxes on tops of the page

C. Fill in the name and address of the person you wish to gift the subscription to and tick the box on top of the page

D. Filling in the name and address with the person you wished to gifted the subscription to and tick the box on top of the page

25. Choose the correct pair of prepositions, in the correct sequence, from among the four options given, to fill in the blanks in the following sentence:

When you go _____ the market, remember to bring back some fruit _____ there.

- A. from; to
- B. for; with
- C. to; from
- D. by; for

26. From among the four options given, choose the most suitable conclusion to the phrase given below, in order to make it a meaningful sentence:

The future belongs to those ...

- A. dreams who they follow
- B. who follows their dream
- C. who follow their dreams
- D. whose dreams they follow

Directions (Qs. No. 27-30): Read the following passage and answer the question:

Beneath the ocean's surface waits a different world – quiet, full of wonder, shimmering with life. Carter Viss loved that world. It's why he left Colorado to study marine biology at Palm Beach Atlantic University. It's why he got a job at the Loggerhead Marine life Center, just up Highway 1 on Florida's east coast. And it's why he spent so much free time snorkeling in the reef system just a couple of hundred meters away from the famous Breakers resort in Palm Beach.

This particular Thursday morning – 28 November 2019 – was especially nice. It was Thanksgiving. Tourists and locals alike hit the beaches. The water was flat, the sky blue and the underwater visibility spectacular. Twenty-five year old Viss and his 32-year-old coworker, Andy Earl, spent a couple of hours among the sharks, eels, turtles, octopus, lionsfish and angelfish. They netted some small specimens for Viss's personal collection. Finally, around moon, they headed for shore.

To a diver underwater, outboard engines have a clear, unmistakable sound. On the surface, however, swimming the crawl, Viss didn't hear the powerboat until it was almost on top of him. When he saw it, he knew he had just an instant. He pulled

desperately to one side, getting his head and upper torso out of the boat's path before it ran him over.

27. From among the four options given, choose the word in the passage that means the same as 'breathtaking'

- A. Shimmering
- B. Especially
- C. Spectacular
- D. Inhaling

28. From among the four options given, choose the word in the passage that means the opposite of 'unclear'

- A. Unmistakable
- B. Wonder
- C. Visibility
- D. Desperately

29. Why was 28 November 2019 particularly suitable for snorkeling?

- A. It was Thanksgiving
- B. It was a clear day and the underwater visibility was spectacular
- C. The water was full of people in powerboats
- D. The beaches were full of tourists and locals

30. Why did Viss move from Colorado to Palm Beach?

- A. To collect underwater specimens for his collection
- B. To work with Andy Earl
- C. To study marine biology
- D. To celebrate Thanksgiving

31. A man has solids of shapes (sphere, cube, cylinder, cuboid and cone) Area of base of cuboid is 110 cm^2 . Radius of sphere and cylinder are equal but volume of cylinder is 25% less than the volume of sphere. Height of cone is equal to the edge of cube and volume

of cube $95\frac{5}{11}\%$ of volume of cone. Radius

cone is equal to height of cuboid and height of cuboid is half of the diameter of the sphere. Ratio of volume of cylinder, cuboid and cube are 462 : 110 : 441 respectively.

What is the sum of volume of cone and volume of cuboid?

- A. 10131 cm^3 B. 12012 cm^3
C. 13013 cm^3 D. 9801 cm^3

32. If $x = -0.5$, then which of the following has the smallest value?

- A. $2^{1/x}$ B. $\frac{1}{x}$
C. $\frac{1}{x^2}$ D. $\frac{1}{\sqrt{-x}}$

33. Which one of the following is the common factor of $(47^{43} + 43^{43})$ and $(47^{47} + 43^{47})$

- A. $(47 - 43)$
B. $(47^{43} + 43^{43})$
C. $(47 + 43)$
D. Data inadequate

34. The ratio of the age of Pawan to that of Richa is 9 : 10. 10 years ago, the ratio of their ages was 4 : 5. What is the present age of Richa?

- A. 24 years B. 20 years
C. 18 years D. 38 years

35. A train travelling at a speed of 80 mph enters that is 2.5 miles long. The length of the train is 0.5 mile. How long does it take for all of the train to pass through the tunnel from the moment the front enters to the moment the rear emerges?

- A. 2 minutes
B. 2 minutes 30 seconds
C. 2 minutes 15 seconds
D. 3 minutes

36. If tax is charged at 22% on the first ₹ 5,50,000 and 35% on all income in excess of ₹ 5,50,000, how much tax is charged on an income of ₹ 8,00,000?

- A. ₹ 2,00,000 B. ₹ 3,00,000
C. ₹ 2,80,000 D. ₹ 2,08,500

37. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

In how many years will a sum of money put at simple interest treble itself?

- (a) The interest earned in 4 years is half the sum.
(b) The rate of interest is 12%.
(c) The sum doubles itself in 8 years at simple interest.

Choose the correct answer from the options given below:

- A. (a) and (b) only
B. (b) and (c) only
C. (a) and (c) only
D. Either of (a) or (b) or (c)

38. If the cost price is 75% of the selling price, then what is the profit in percentage?

- A. 25% B. 30%
C. 33.33% D. 27.5%

39. A number is increased by 20% and then again by 20%. By what percent should the increased number be reduced so as to get back to the original number?

- A. $19\frac{11}{31}\%$ B. $30\frac{5}{9}\%$
C. 40% D. 44%

40. A pump can fill a tank with water in 2 hours.

Because of a leak, it took $2\frac{1}{3}$ hours to fill the tank. The leak can drain all the water of the tank in:

- A. 8 hours B. 7 hours
C. 14 hours D. $4\frac{1}{3}$ hours

41. 25% of 30% of 850 + $5 \times 76 = ?$

- A. 441.75 B. 441.57
C. 443.57 D. 443.75

42. 38.4% of 1450 + 78.2% of 240 - $?^2 = 20\%$ of 77.4

Find ?

- A. 18 B. 29
C. 27 D. 81

43. If $2^{2n-1} = 1/8^{n-3}$, then the value of n is:

- A. 3 B. -2
C. 0 D. 2

44. $(37)^2 = ? + [(11\sqrt{3} + 5\sqrt{3}) \times (9\sqrt{3} + 11\sqrt{3})]$

- A. 406 B. 409
C. 411 D. 415

45. Match the following: For the quadratic equation $ax^2 + bx + c = 0$ with roots α and β .

List-I

List-II

- | | |
|------------------------|--|
| (a) $\alpha = \beta$ | I. $(ac^2)^{1/3} + (a^2c)^{1/3} + b = 0$ |
| (b) $\alpha = 2\beta$ | II. $2b^2 = 9ac$ |
| (c) $\alpha = 3\beta$ | III. $b^2 = 4ac$ |
| (d) $\alpha = \beta^2$ | IV. $3b^2 = 16ac$ |

Choose the correct answer from the options given below:

- | | | | |
|--------|-----|-----|-----|
| (a) | (b) | (c) | (d) |
| A. I | II | III | IV |
| B. II | I | IV | III |
| C. III | I | II | IV |
| D. III | II | IV | I |

46. Three numbers A, B and C are in the ratio of 12 : 15 : 25. If sum of these numbers is 312, ratio between the difference of B and A and difference of C and B is

- A. 3 : 7 B. 5 : 7
C. 3 : 10 D. 5 : 10

47. The fraction $101 \frac{27}{100000}$ in decimal for is:

- A. 0.01027 B. 0.10127
C. 101.00027 D. 101.000027

48. A man goes to Goa for a three-day stay. On the first day he doubles the money he has and spends ₹ 160. On the second day he triples the money he has and spends ₹ 130. On the third day he quadruples the money he has and spends ₹ 200. If he is left with twice the money he had at the beginning of the first day, how much money did he have at the end of the first day?

- A. 54 B. 75
C. 82 D. 80

49. The average of six numbers is x and the average of three of these is y . If the average of the remaining three is z , then:

- A. $x = y + z$
B. $3x = y + z$
C. $2x = y + z$
D. $x = 2y + 2z$

50. If x and y are integers and $x - y$ is odd, which of the following must be true?

- (a) xy is even,
(b) $x^2 + y^2$ is odd
(c) $(x + y)^2$ is even

Choose the correct answer from the options given below:

- A. (a), (b) and (c) only
B. (a) and (b) only
C. (a) only
D. (b) only

51. Match List-I with List-II:

List-I

List-II

- | | |
|---|-----------|
| (a) $\frac{(0.1667)(0.8333)(0.333)}{(0.2222)(0.6667)(0.1250)}$ | I. 0.8 |
| (b) $\frac{489.1375 \times 0.0483 \times 1.956}{0.873 \times 92.581 \times 99.749}$ | II. 0.86 |
| (c) $\frac{0.0203 \times 2.92}{0.0073 \times 14.5 \times 0.7}$ | III. 2.50 |
| (d) $\frac{(0.96)^3 - (0.1)^3}{(0.96)^2 + 0.096 + (0.1)^2}$ | IV. 0.06 |

Choose the correct answer from the options given below:

- | | | | |
|--------|-----|-----|-----|
| (a) | (b) | (c) | (d) |
| A. I | II | III | IV |
| B. III | IV | I | II |
| C. III | II | IV | I |
| D. IV | II | I | III |

52. If $x = \frac{\sqrt{3}+1}{\sqrt{3}-1}$ and $y = \frac{\sqrt{3}-1}{\sqrt{3}+1}$, then the value of $(x^2 + y^2)$ is:

- A. 10 B. 13
C. 14 D. 15
53. A mixture of 60 kg of rice and dal contains 45% of dal. The new mixture is formed by adding 15 kg of dal. What is the percentage of rice in the new mixture?
A. 40% B. 55%
C. 15% D. 44%
54. The ratio between the three angles of a quadrilateral is 3 : 4 : 9. The value of the fourth angle of the quadrilateral is 88° . What is the difference between the largest and the smallest angles of the quadrilateral?
A. 102° B. 106°
C. 82° D. 92°
55. What is the probability of the occurrence of a number that is even or less than 3 when a fair die is rolled?
A. $\frac{2}{3}$ B. $\frac{3}{2}$
C. $\frac{5}{6}$ D. $\frac{6}{5}$
56. A speaks truth in 75% cases and B in 80% of the cases. In what percentage of cases are they likely to contradict each other, narrating the same incident?
A. 5% B. 15%
C. 35% D. 45%
57. In how many different ways can the letters of the word 'POTENCY' be arranged in such a way that the vowels always come together?
A. 1360 B. 3720
C. 2480 D. 1440
58. A bowl contains 8 violet, 6 purple and 4 magenta balls. Three balls are drawn at random. Find out the number of ways of selecting the balls of different colour?
A. 192 B. 122
C. 248 D. 362
59. The second largest and the smallest angles of a triangle are in the ratio of 6 : 5. The difference

between the second largest angle and the smallest angle of the triangle is equal to 9° . What is the difference between the smallest and the largest angles of the triangle?

- A. 12° B. 24°
C. 18° D. 36°

60. If three metallic spheres of radii 6 cms, 8 cms and 10 cms are melted to form a single sphere, the diameter of the new sphere will be:

- A. 24 cm B. 12 cm
C. 16 cm D. 30 cm

Directions (Qs. No. 61-64): The next four questions are based on the following:

Eight friends P, Q, R, S, T, U, V and W are sitting around a circular table and all of them are facing away (outside) the centre but not necessarily in the same order. T sits opposite to S. P sits second to the left of S. Q sits third to the left of P. U sits second to the left of Q. R is not an immediate neighbor of P. W sits second to the left of V. P sits opposite to R.

61. What is the position of S with respect to W?

- A. Third to right
B. Third to left
C. Fourth to right
D. Second to left

62. Who sits third to the right of R?

- A. T B. V
C. S D. W

63. Who sits to the immediate right of S?

- A. P B. U
C. Q D. V

64. How many friends sit between V and T from the right of T?

- A. 6 B. 4
C. 2 D. 3

65. Consider the following arrangements of numbers:

2, 6, 7, 5, 4, 3, 7, 4, 8, 9, 4, 8, 9, 4, 3, 2, 5, 4,
7, 9, 8, 6, 8, 7, 1, 2, 5, 3, 7, 6, 8, 9, 3, 6

How many 7's are there in the above series which are immediately preceded by an even

number and immediately followed by an odd number?

- A. 2 B. 4
C. 3 D. 5

66. Given below are two statements based on the following information above five friends.

Sunita is heavier than Anita, but not as heavy as Renu. Anita is heavier than Jayanti. Kritika is heavier than Sunita, but lighter than Renu.

Statement I: Kritika is the heaviest among her friends.

Statement II: Jayanti is the lightest among her friends.

In the light of the above statements, choose the correct 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

67. Anju starts from point A and travels towards the East for 36 km to reach the point B, at B she takes a right turn and travels for 77 km to reach point C. What is the distance between the point A and C?

- A. 75 km B. 89 km
C. 86 km D. 85 km

68. If symbol 'P' denotes 'multiplied by', 'R' denotes for 'added to', 'S' denotes 'subtracted from' and 'T' denotes 'divided by', then $16 P 4 T 8 R 12 S 5 =$

- A. 80 B. 54
C. 15 D. 8

69. From the three statements (A-C) and four conclusions (1-4) given below, identify the conclusions that could be logically inferred.

Statement (A): Some florist are cleaners.
(B): No cleaner is a driver.
(C): All drivers are florists.

Conclusion 1: Some cleaners are florists.
2: All florists are drivers.
3: No driver is a cleaner.
4: Some drivers are cleaners.

- A. 1 only
B. 1 and 3 only
C. 1 and 4 only
D. 3 only

70. In the context of four statements (a-d) given below, identify two of these statements that cannot be true together but can be false together, assuming that there is at least one machine in the company.

- (a) All machines make noise.
(b) Some machines are noisy.
(c) No machine makes noise.
(d) Some machines are not noisy.

Choose the correct answer from the options given below:

- A. (a) and (b) only
B. (c) and (d) only
C. (a) and (c) only
D. (b) and (d) only

71. From the statement and two assumptions 1 and 2 given below, identify the assumption(s) that is/are implicit in the statement.

Statement: Highly brilliant and industrious students do not always excel in the written examination.

Assumption 1: The written examination is good mainly for mediocre students.

Assumption 2: The brilliant and industrious students cannot always write good answers in the exam.

- A. 1 only B. 2 only
C. Both 1 and 2 D. Neither 1 nor 2

72. From the statement and two arguments 1 and 2 given below, identify the argument(s) that hold(s) strong as per the situation described in the statement.

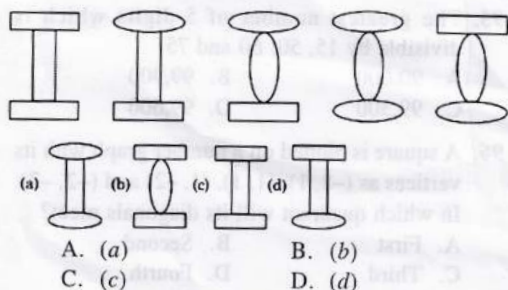
Statement : Should students union in universities be abolished?

Argument 1 : Yes. Students can pay full attention to their career development.

Argument 2 : No. All great leaders had been student's union leaders.

- A. 1 only
B. 2 only
C. either 1 or 2
D. neither 1 nor 2
73. If A is the son of B, B and C are sisters, D is the mother of C, E is the son of D, then which of the following statement is correct?
A. E is the maternal uncle of A
B. E and C are sisters
C. A and E are cousins
D. B is the daughter of E
74. Given below are two statements:
Statement I : The wrong number in the series 126, 98, 70, 41, 14 is 41.
Statement II: The wrong number in The series 7, 28, 63, 124, 215, 342.... is 342.
In the light of the above statements, choose the correct 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
75. In a certain coding system, if FLOWER is written as SEXOMF, then how will you code GARDEN?
A. OEERBH B. OEESBH
C. OEREGB D. OEERBG
76. Consider the following two number series I and II:
I : 2, 10, 60, 420, 3360, P,
II : 2, 20, Q, 110, 182, 272,
Then $P \div Q =$
A. 436 B. 540
C. 336 D. 642
77. If 'fan tag fog ink' stands for 'Khelo India Hockey Team', 'code for man' stands for 'Summer India Games and 'she has code' stands for 'Indian Games History'. What stands for the word 'Summer in the code'?
A. Fan B. Code
C. Fog D. Man

78. Which of the following pairs of words express the relationship that is most similar to the pair Square : Cube?
A. Rectangle : Cuboid
B. Triangle : Square
C. Quadrilateral : Cuboid
D. Cuboid : Rectangle
79. Sympathy is related to Virtue in the same way as Cruelty is related to
A. Vice
B. Kindness
C. Emotion
D. Animosity
80. First two words are related in a certain way in:
Grain : Stock :: Stick : ?
Identify the suitable word in place of ? so that third and fourth words also become related in the same manner.
A. String
B. Collection
C. Bundle
D. Heap
81. A statement is followed by two inferences 1 and 2. Considering the statement to be true, which of the inferences 1 and 2 logically follow?
Statement : In a T-20 cricket match, the number of runs scored by the Indian team were 212 and out of these 160 runs were scored by spinners.
Inference: 1. 10% of Indian team consist of spinners.
Inference: 2. The opening batters were spinners
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2
82. What is the next figure in the series of five figures?



83. In a housing society, 50 households subscribe to newspaper 1, 60 households subscribe to newspaper 2 and 70 households subscribe to newspaper 3. Further 25 households subscribe to both 1 and 2, 20 households to both 2 and 3 and 10 households to both 1 and 3. Also there are five households which subscribe to all the three newspapers?

If 20 households do not subscribe to any of the three mentioned newspapers, then what is the total number of households in the society?

- A. 200 B. 180
C. 155 D. 135

84. In a housing society, 50 households subscribe to newspaper 1, 60 households subscribe to newspaper 2 and 70 households subscribe to newspaper 3. Further 25 households subscribe to both 1 and 2, 20 households to both 2 and 3 and 10 households to both 1 and 3. Also there are five households which subscribe to all the three newspapers?

What is the number of households that subscribe to only one newspaper?

- A. 90 B. 45
C. 76 D. 60

85. A Director of an Hospital must constitute a committee of five persons by selecting two Doctors from A, B and C and three Engineers from D, E, F, G and H. It is given that both B and H together, both G and F together and both E and H together cannot be the members of the committee. If C is not selected in the committee, then any of the following could be in the committee except

- A. D B. H
C. E D. G

86. Which of the following statements are false?

- (i) A number is divisible by 9 if the sum of the digits is divisible by 9
(ii) A number is divisible by 9 if the product of the digits is divisible by 9
(iii) There exists numbers which are divisible by 9 but not divisible by 3.
(iv) There exists numbers which are divisible by 3 but not divisible by 9.

- A. (i) and (ii)
B. (ii) and (iii)
C. (ii) and (iv)
D. Only (ii)

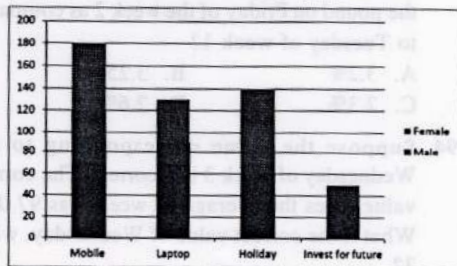
87. The square root of 0.0625 is

- A. 0.025 B. 0.25
C. 2.5 D. 0.005

88. If the abscissa of a point is (-6) and the ordinate is (3), in which quadrant will the point lie?

- A. First quadrant
B. Second quadrant
C. Third quadrant
D. Fourth quadrant

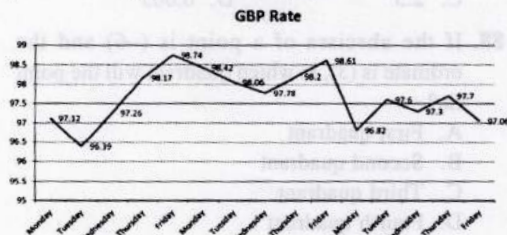
Directions (Qs. No. 89 to 91): In a survey among new recruits in an organization employees were asked what they are likely to buy with their first salary – a mobile phone, a laptop, a holiday or invest for future. The results of the survey, classified according to male and female employees, as shown in the stacked bar chart below.



89. Approximately how many people are likely to buy a mobile phone with their first salary?

- A. 120 B. 60
C. 100 D. 180
90. The total number of female employees who participated in the survey is approximately
A. 350 B. 200
C. 100 D. 400
91. Approximately how many more female employees than male employees are likely to go on a holiday with their first salary?
A. 110 B. 40
C. 180 D. 20

Directions (Qs. No. 92 to 94): The following line diagram gives the exchange rate of the pound (GBP) against the Indian rupee (INR) for three consecutive weeks (for example on Monday of the first week 1 pound = Rupees 97.12). Answer the following questions based on this diagram.



92. On which day of the week out of all three weeks is the average daily rate of the pound the lowest?
A. Monday B. Tuesday
C. Wednesday D. Thursday
93. What is the percentage increase in the rate of the pound on Friday of the week 2 as compared to Tuesday of week 1?
A. 3.2% B. 3.25%
C. 2.3% D. 2.6%
94. Suppose the value corresponding to the Wednesday of week 3 is incorrect. The correct value gives the average of week 3 as 97.066. What is the correct value of Wednesday, week 3?
A. 96.15 B. 97.15
C. 97.40 D. 96.90

95. The greatest number of 5 digits which is divisible by 15, 50, 60 and 75.
A. 90,000 B. 99,900
C. 99,300 D. 99,600
96. A square is plotted on a number graph with its vertices as $(-2, 1)$, $(1, 1)$, $(1, -2)$ and $(-2, -2)$. In which quadrant will its diagonals meet?
A. First B. Second
C. Third D. Fourth
97. Which of the following is/are an irrational number/numbers?
(i) 0.3333
(ii) $\sqrt{121}$
(iii) $\sqrt{2}$
(iv) 0.625
A. (i) and (iv) B. (ii) and (iii)
C. (iii) D. (i)
98. A batch of students at a college are planning a winter vacation trip. Three options have been proposed as destinations — Shimla, Goa and Jaisalmer. While some students are fixated with only one choice, some are okay with more than one choice and some don't mind going to either of the three destinations. It was found that 40 students are ready for both Goa and Shimla, 10 students are ready to go to any of the three destinations, and 30 students are ready for both Shimla and Jaisalmer. If 25 students want to go to Shimla only, total how many students are willing to go to Shimla?
A. 95 B. 75
C. 85 D. 70
99. Consider a five-digit number 3467X, where X represents the unit digit. For how many possible values of X will the number 3467X be divisible by 9?
A. 3 B. 2
C. 1 D. 0
100. What is the sum of squares of first 15 natural numbers?
A. 14400 B. 1240
C. 120 D. 3720

ANSWERS

1	2	3	4	5	6	7	8	9	10
D	D	C	A	A	B	A	B	B	B
11	12	13	14	15	16	17	18	19	20
C	B	C	B	D	B, A	C	D	A	A
21	22	23	24	25	26	27	28	29	30
C	A	B	C	C	C	C	C	B	C
31	32	33	34	35	36	37	38	39	40
B	B	C	B	C	D	D	C	B	C
41	42	43	44	45	46	47	48	49	50
D	C	D	B	D	C	C	D	C	B
51	52	53	54	55	56	57	58	59	60
B	*	D	A	A	C	D	A	D	A
61	62	63	64	65	66	67	68	69	70
A	D	B	C	C	D	D	C	B	C
71	72	73	74	75	76	77	78	79	80
B	D	A	C	D	B	*	A	A	C
81	82	83	84	85	86	87	88	89	90
D	D	*	*	B	B	B	B	D	B
91	92	93	94	95	96	97	98	99	100
D	B	C	A	B	C	C	C	C	B

* Error in question/option.

EXPLANATORY ANSWER

- 1. 1. Spill the beans:** This is an idiomatic expression that means to reveal a secret or disclose confidential information. In the context of the sentence, the robber is offered a lighter punishment if he provides the names of his accomplices, so "spilling the beans" refers to him revealing that information.
- 2. Call it a day:** This is another idiomatic expression that means to decide to stop what one is doing, especially when faced with challenges or difficulties. In the context of the sentence, after the robber

decides to "spill the beans" and provide the names of his accomplices, he might choose to "call it a day," indicating that he wants to put an end to his criminal activities or involvement.

So, the combination of "spill the beans" and "call it a day" fits well in the given sentence, conveying the idea that the robber, when faced with the police offer, decides to reveal information and put an end to his criminal activities.

- 2. 1. Biannual:** This term refers to something occurring twice a year. It is derived from

the prefix "bi-" meaning "two" and "annual" meaning "year," so "biannual" means happening twice within a single year.

2. **Biennial:** This term, on the other hand, means occurring once every two years. It comes from the same prefix "bi-" meaning "two," but it is combined with "ennial," which relates to a year. Therefore, "biennial" means happening once every two years.
3. 1. **Archetypal:** This term refers to something that is considered a perfect or typical example of a particular kind. It embodies the essential characteristics of its kind or represents the most typical form.
2. **Quintessential:** This term is closely related in meaning to "archetypal." It means representing the most perfect or typical example of a quality or class. Something that is quintessential is considered to be the purest or most essential form of its kind.
4. The idiom "to have sticky fingers" is a figurative expression used to describe someone who has a tendency or propensity to steal or pilfer things. It suggests that the person is inclined towards theft or dishonesty, as if their fingers stick to items they come across, implying a readiness to take things that do not belong to them.
5. The word "gaunt" is an adjective that describes a person who is extremely thin, haggard, and looks unhealthy or exhausted. When someone appears "lean and haggard," they are typically very thin and worn out, possibly due to illness, fatigue, or other adverse conditions.
- A. **Gaunt:** This is the correct answer. It precisely captures the meaning of someone who is both lean and haggard.
- B. **Strong:** This term refers to physical strength and doesn't convey the sense of being thin or haggard.

C. **Overweight:** This is the opposite of being lean. It refers to carrying excess weight.

D. **Athletic:** This term implies being active and fit, but it doesn't convey the idea of looking thin or haggard.

6. Sentence S ("in a real sense, a hegemonic imperialism") sets the stage by introducing the main idea of the paragraph.

- Sentence R ("exercising to a maximum degree a rationalized violence") explains the nature of this imperialism - it relies on calculated and extreme force.
- Sentence Q ("taken to a higher level than ever before through fire and sword") provides an example of this violence, emphasizing its intensity and historical context.
- Sentence P ("but also through the attempt to control hearts and minds") expands on the concept of imperialism, moving beyond physical force to include control over thoughts and beliefs.

7. "He requested to give me the lecture notes" is a valid and interesting way to express the indirect speech of "Please give me the lecture notes I need." It highlights the potential ambiguity in the original sentence, where "please give me" could be misinterpreted as an offer to provide the notes rather than a request to receive them.

8. The corrected version could be: with the rise in the standard of living of the people."

So, the corrected sentence would read: "With the urbanization, industrialization, and transport development, there has been a rapid increase in the demand for electricity with the rise in the standard of living of the people."

9. (a) **Status quo - Current state of affairs:** This Latin phrase is used to refer to the existing state of affairs or the way things currently are.

(b) Corpus delicti - Evidence of a crime:

This Latin phrase translates to "body of the crime" and is used to describe the substantial and objective proof that a crime has been committed.

(c) Modus operandi - Way of doing things:

This Latin phrase is often abbreviated as "M.O." and refers to a person's particular way or method of doing things, especially in the context of criminal activities.

(d) Que sera sera - What will be, will be:

This is a Spanish phrase (though the spelling is more typical in Italian) that translates to "What will be, will be." It conveys the idea of accepting fate or destiny.

10. "The world witnessed a rare and somewhat unexpected sight on February 21, 2022."

This sequence is indeed correct and forms a meaningful sentence. The sentence follows a logical order by first introducing the event ("the world witnessed"), followed by the description of the event ("a rare and somewhat unexpected sight"), and concluding with the specific date ("on February 21, 2022").

11. The word "malevolence" refers to the state or condition of having ill will or a desire to harm others. It is derived from the Latin word "malevolentia," where "male" means "bad" or "ill," and "volens" means "wishing" or "wanting." So, "malevolence" is the correct and accepted spelling for this term.

12. A. Four key stakeholder are integral to the supply for foodgrains in the country: This sentence has two errors. Firstly, "stakeholder" needs to be plural as it refers to four key individuals/groups. Secondly, "for" should be replaced with "of" as it relates to possession or belonging.

C. Four key stakeholders is integral to the supply for foodgrains in the country: This sentence uses the singular verb "is" with the

plural subject "stakeholders." Therefore, it is grammatically incorrect.

- D. Fourth keying stakeholders are integral to the supply for foodgrains in the country: This sentence has three errors. Firstly, "Fourth" is incorrect as it implies there are only four stakeholders in total, while the original statement specifies "key stakeholders," implying potentially more than four. Secondly, "keying" is a typo and should be replaced with "key." Finally, "for" should be replaced with "of" as explained previously.

13. **Conversion – controversy:** These words are not synonyms. Conversion implies a change or transformation, while controversy refers to a disagreement or dispute.

Envisage – face: While both words can involve anticipation, they are not perfect synonyms. Envisage emphasizes imagining or foreseeing something, while face implies encountering or dealing with something directly.

Defer – postpone: These words are both synonyms for delaying or putting something off to a later time. They are very close in meaning and can be used interchangeably in many contexts.

Strong – sluggish: These words are antonyms, meaning they have opposite meanings. Strong implies being powerful or robust, while sluggish suggests being slow or lacking energy.

14. **The sentence would then read:** "Although the two friends did not see eye to eye on many things when they were younger, they were able to let bygones be bygones as they matured, and their friendship lasted for many years." This combination fits well in the context, suggesting that despite differences in the past, the friends were able to forgive and move forward.

15. All parts of the sentence are grammatically correct and logically connected. It reads

smoothly and conveys a clear meaning: "Western feminist discourse and political practice is neither singular nor homogeneous in its goals, interests, or analyses."

17. **Matinee:** This refers to a daytime performance, not specifically a practice or trial run.

Trailer: This refers to a short promotional video clip, not a full-fledged practice performance.

Interval: This refers to a break in a performance, not the performance itself.

Rehearsal: This accurately captures the meaning of a practice or trial performance, where the artistic work is run through or tested ahead of the actual public presentation. It signifies the process of honing skills, ironing out errors, and preparing for the final performance.

18. **On the ball:** This doesn't quite fit the context as it refers to being prepared or efficient, not a positive outcome arising from an initial disappointment.

The last straw: This suggests exceeding one's patience, not a hidden benefit from a setback.

Better late than never: This could work on a surface level, but "disguise" implies there was something beneficial about the delay, which this idiom doesn't directly address.

A blessing in disguise: This idiom perfectly captures the situation. It signifies something that seems unfortunate at first but ultimately turns out to be beneficial. This aligns with the sentence's description of the dress not being available, leading to finding a better one.

Therefore, "a blessing in disguise" conveys the hidden positive outcome amidst the initial disappointment, making it the most appropriate choice for the blank.

19. (d) **Spending chunks of your day on:** This introduces the action and sets the context.

(c) **The Internet can be helpful:** This reveals the initial possibility before explaining the other side.

(b) **Or detrimental for your mental health:** This presents the negative outcome depending on the way the internet is used.

(a) **Depending upon what you do there:** This provides the crucial detail, clarifying that the impact depends on how one engages with the internet.

Therefore, (d), (c), (b), (a) creates a coherent and grammatically correct sentence that effectively conveys the message: "Spending chunks of your day on the internet can be helpful or detrimental for your mental health, depending upon what you do there."

20. **Shorten:** This directly and accurately captures the essence of abbreviation, which is to make something shorter.

Translate: This refers to converting from one language to another, not making something shorter.

Edit: This can involve various changes, including shortening, but it also encompasses other modifications like correcting errors or restructuring content.

Lengthen: This is the opposite of abbreviate, meaning to make something longer.

21. **Polygamist:** This refers to someone who practices polygamy, having multiple spouses, not language skills.

Polygon: This is a geometric shape with multiple sides, not related to linguistic abilities.

Polytheist: This refers to someone who believes in multiple gods, not specifically about languages.

Polyglot, on the other hand, directly relates to fluency in multiple languages. It is derived from the Greek words "poly" (meaning many) and "glossa" (meaning tongue), hence signifying someone with many tongues or languages.

- 22. The ball is in your court:** This idiom comes from sports, particularly tennis, where the ball being in one's court means it's their turn to make a move or take action. In a broader sense, the expression is used to indicate that someone now has the responsibility or opportunity to make a decision or take action in a particular situation.

In the given sentence: "When the exams were approaching, the teacher told the students, 'I have completed the syllabus and now the ball is in your court.'"

This suggests that the teacher has done their part by completing the syllabus, and now it's the students' responsibility to study and prepare for the exams. The idiom conveys a sense of passing the responsibility or decision-making to someone else.

- 23.** The sentence contains an error in: have given to them in birth, by virtue of their biology

The corrected version could be: given to them at birth, by virtue of their biology

So, the revised sentence would be: "The roles we associate with women are not given to them at birth, by virtue of their biology, but rather are socially constructed."

- 24.** Fill in the name and addresses of the person you wish to gifted the subscription form and ticks the box on top in the page: This sentence has several errors:

- "Gifted" should be "gift" as it is the present tense verb form.
- "Addresses" is unnecessary if only one person is receiving the subscription.
- "Ticks" should be "tick" to agree with the singular subject "box."
- "In the page" should be "on the page" as it refers to location on a flat surface.

Filled in the names and address of the person you wishing to gift the subscription to and ticking the boxes on tops of the page: This

sentence has similar errors to the first option, including incorrect verb tense, unnecessary pluralization, and incorrect agreement with the singular subject. Additionally, "ticking" should be "ticked" in the past tense and "tops of the page" is incorrect as it suggests multiple boxes on different pages.

Filling in the name and address with the person you wished to gifted the subscription to and tick the box on top of the page: This sentence is incorrect for several reasons:

- "Filling" is present continuous tense, but the action should be in the imperative ("Fill").
- "With the person" is unnecessary and clunky.
- "Wished to gifted" is incorrect as it uses the past tense of "want" but the infinitive form of "gift." It should be "wish to gift."

Therefore, only option C provides a grammatically correct and concise sentence with accurate verb tense, agreement, and preposition usage. It clearly instructs the reader to fill in the required information and perform the specified action.

- 25.** "When you go to the market, remember to bring back some fruit from there."

1. **"When you go to the market":** Here, "to" is used to indicate the destination or direction. The preposition "to" is appropriate when referring to the place you are heading.
2. **"Bring back some fruit from there":** Here, "from" is used to indicate the source or origin. It specifies where you are obtaining the fruit.

So, the combination of "to" and "from" accurately conveys the idea of going to the market and bringing back fruit from that location.

26. "Who follow their dreams" is the most grammatically correct and semantically accurate choice. It emphasizes the importance of individual action and personal ambition in shaping one's future. It is concise, impactful, and captures the spirit of the original phrase.

27. In the context of the passage, the author describes the underwater visibility on the Thanksgiving morning as spectacular. When something is described as spectacular, it means it is extremely impressive, breath-taking, or awe-inspiring. The use of "spectacular" here implies that the underwater visibility was exceptionally beautiful and stunning, capturing the reader's attention and admiration.

28. In the context of the passage, the word that means the opposite of 'unclear' is **Visibility**.

29. The reason 28 November 2019 was particularly suitable for snorkeling, as mentioned in the passage, is: It was a clear day and the underwater visibility was spectacular

The passage states, "This particular Thursday morning – 28 November 2019 – was especially nice. It was Thanksgiving. Tourists and locals alike hit the beaches. The water was flat, the sky blue and the underwater visibility spectacular."

30. The passage states, "Beneath the ocean's surface waits a different world – quiet, full of wonder, shimmering with life. Carter Viss loved that world. It's why he left Colorado to study marine biology at Palm Beach Atlantic University."

34. Let present age of Pawan = $9x$ years
and present age of Richa = $10x$ years
10 years ago,

Pawan's age = $(9x - 10)$ years

Richa's age = $(10x - 10)$ years

$$\frac{9x-10}{10x-10} = \frac{4}{5}$$

$$\Rightarrow 45x - 50 = 40x - 40$$

$$\Rightarrow 5x = 10$$

$$\Rightarrow x = 2$$

\therefore Present age of Pawan = 18 years

and present age of Richa = 20 years.

$$35. \text{ Total distance} = 2\frac{1}{2} + \frac{1}{2} = \frac{6}{2} = 3 \text{ m}$$

$$\text{Speed} = 80 \text{ m/hr}$$

$$\therefore \text{ Time taken} = \frac{\text{Total distance}}{\text{Speed}}$$

$$= \frac{3}{80} \times 60 = \frac{9}{4} \text{ min}$$

$$= 2\frac{1}{4} \text{ min}$$

$$= 2 \text{ min } 15 \text{ second.}$$

$$36. ₹ 800000 = ₹ 550000 + 250000$$

$$\text{Tax} = 550000 \times \frac{22}{100} + 250000 \times \frac{35}{100}$$

$$= 121000 + 87500 = 208500.$$

$$38. \text{ Let } SP = ₹ x$$

$$\therefore CP = \frac{75}{100} \times x = \frac{3x}{4}$$

$$\text{Profit} = x - \frac{3x}{4} = \frac{4x-3x}{4} = \frac{x}{4}$$

$$\text{Profit \%} = \frac{\frac{x}{4}}{\frac{3x}{4}} \times 100$$

$$= \frac{x}{4} \times \frac{4}{3x} \times 100$$

$$= \frac{100}{3} = 33.33\%.$$

$$39. \text{ Let } SP = ₹ 100$$

$$100 = 144 - x\% \text{ of } 144$$

$$= 144 - \frac{x}{100} \times 144$$

$$= \frac{144 \times 100 - 144x}{100}$$

$$\begin{aligned}
 10000 &= 14400 - 144x \\
 144x &= 4400 \\
 x &= \frac{4400}{144} = \frac{275}{9} = 30\frac{5}{9}\%
 \end{aligned}$$

$$\begin{aligned}
 40. \quad 1 \text{ hr work} &= \frac{3}{7} - \frac{1}{2} = \frac{6}{14} \\
 &= \frac{1}{2} - \frac{3}{7} = \frac{7-6}{14} = \frac{1}{14}
 \end{aligned}$$

Hence leak can drain of tank = 14 hrs.

$$41. \quad \frac{25}{100} \times \frac{30}{100} \times 850 + 5 \times 76 = ?$$

$$= \frac{255}{4} + 380 = x$$

$$= \frac{255+1520}{4} = x$$

$$= \frac{1775}{4} = x$$

$$\Rightarrow x = 443.75$$

$$42. \quad \frac{384}{1000} \times 1450 + \frac{782}{1000} \times 240 - \frac{20 \times 774}{1000} = x^2$$

$$\Rightarrow \frac{384 \times 145}{100} + \frac{782 \times 24}{100} - \frac{2 \times 774}{100} = x^2$$

$$\Rightarrow \frac{55680}{100} + \frac{18768}{100} - \frac{1548}{100} = x^2$$

$$\Rightarrow \frac{74448}{100} - \frac{1548}{100} = x^2$$

$$\Rightarrow \frac{72900}{100} = x^2$$

$$\Rightarrow x^2 = 729 \Rightarrow x = 27$$

$$43. \quad \therefore 2^{2n-1} = (2)^{-3(n-3)}$$

$$\Rightarrow 2n-1 = -3n+9$$

$$\Rightarrow 5n = 10 \Rightarrow n = 2.$$

$$44. \quad (37)^2 = x + [(11\sqrt{3} + 5\sqrt{3}) \times (9\sqrt{3} + 11\sqrt{3})]$$

$$\Rightarrow 1369 = x + [16\sqrt{3} \times 20\sqrt{3}]$$

$$\Rightarrow 1369 = x + 320 \times 3$$

$$\Rightarrow 1369 = x + 960$$

$$\Rightarrow x = 1369 - 960 = 409$$

Hence, 409 will come at the place of question mark.

$$46. \text{ Let } A = 12x$$

$$B = 15x$$

$$C = 25x$$

$$12x + 15x + 25x = 312$$

$$\Rightarrow 52x = 312$$

$$\Rightarrow x = \frac{312}{52} = 6$$

$$A = 12 \times 6 = 72$$

$$B = 15 \times 6 = 90$$

$$C = 25 \times 6 = 150$$

$$B - A = 90 - 72 = 18$$

$$C - B = 150 - 90 = 60$$

$$\text{Required ratio} = 18:60 = 3:10.$$

$$47. \quad \frac{101 \times 27}{100000} = 10100027$$

$$= 101.00027$$

$$48. \text{ Let first day he has ₹ 120}$$

$$120 \times 2 = ₹ 240 - 160 = ₹ 80$$

$$\text{Second day, } 80 \times 3 = ₹ 240 - 130 = ₹ 110$$

$$\text{Third day, } 110 \times 4 = 440 - 200 = ₹ 240$$

Hence, required money he has end of the first day = ₹ 80.

$$49. \quad 6x = 3y + 3z$$

$$\Rightarrow 6x = 3(y + z)$$

$$\Rightarrow \frac{6x}{3} = \frac{3(y+z)}{3}$$

$$\Rightarrow 2x = y + z$$

$$50. \text{ Let } x = 9, y = 6$$

$$x - y = 9 - 6 = 3 \text{ which is odd}$$

$$xy = 9 \times 6 = 54 \text{ which is even}$$

$$x^2 + y^2 = (9)^2 + (6)^2$$

$$= 81 + 36 = 117 \text{ which is odd}$$

$$(x + y)^2 = (9 + 6)^2$$

$$= (15)^2 = 225 \text{ which is not even}$$

Hence, A and B is correct option.

$$\begin{aligned}
 52. \quad x &= \frac{\sqrt{3}+1}{\sqrt{3}-1} \times \frac{\sqrt{3}+1}{\sqrt{3}+1} \\
 &= \frac{3+1+2\sqrt{3}}{2} = \frac{2(2+\sqrt{3})}{2} = 2+\sqrt{3} \\
 y &= \frac{\sqrt{3}-1}{\sqrt{3}+1} \times \frac{\sqrt{3}-1}{\sqrt{3}-1} \\
 &= \frac{3+1-2\sqrt{3}}{2} = 2-\sqrt{3}
 \end{aligned}$$

$$\begin{aligned}
 x^2 + y^2 &= (2+\sqrt{3})^2 + (2-\sqrt{3})^2 \\
 &= 4+3+4\sqrt{3}+4+3-4\sqrt{3} = 14
 \end{aligned}$$

Hence, the value of $x^2 + y^2 = 14$.

53. Amount of dal in 60 kg mixture

$$= \frac{45}{100} \times 60 \text{ kg} = 27 \text{ kg}$$

Amount of rice = 33 kg

Now adding 15 kg dal in the mixture

New mixture = 42 kg + 33 kg = 75 kg

$$\begin{aligned}
 \% \text{ of rice in the new mixture} &= \frac{33}{75} \times 100 \\
 &= 44\%.
 \end{aligned}$$

54. Let three angles are in x ratio

According to the question,

$$\begin{aligned}
 3x + 4x + 9x + 88^\circ &= 360^\circ \\
 \Rightarrow 16x &= 360 - 88 = 272^\circ \\
 \Rightarrow x &= \frac{272}{16} = 17
 \end{aligned}$$

$$\therefore \text{Smallest angle} = 3 \times 17 = 51^\circ$$

$$\text{Largest angle} = 9 \times 17 = 153^\circ$$

Difference between largest and the smallest angles

$$= 153^\circ - 51^\circ = 102^\circ$$

$$56. \quad P(A) = \frac{75}{100} = \frac{3}{4}$$

$$P(B) = \frac{80}{100} = \frac{4}{5}$$

$$\therefore P(\bar{A}) = 1 - \frac{3}{4} = \frac{1}{4}$$

$$P(\bar{B}) = 1 - \frac{4}{5} = \frac{1}{5}$$

$P(A \text{ and } B \text{ contradict each other})$

$$= P(A \text{ and } \bar{B}) + P(\bar{A} \text{ and } B)$$

$$= P(A) \times P(\bar{B}) + P(\bar{A}) \times P(B)$$

$$= \left(\frac{3}{4} \times \frac{1}{5}\right) + \left(\frac{1}{4} \times \frac{4}{5}\right) = \frac{3}{20} + \frac{1}{5}$$

$$= \frac{3+4}{20} = \frac{7}{20} = \frac{7}{20} \times 100 = 35\%$$

$\therefore A$ and B contradict each other in 35% of the cases.

57. In the word 'POTENCY'; we treat the two vowels OE as one letter.

Number of ways of arranging these letters

$$= 6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$$

Now, 2 vowels, OE can be arranged in 2!

$$= 2 \text{ ways}$$

\therefore Required number of ways

$$= 720 \times 2 = 1440.$$

58. Required no. of ways = $8 \times 6 \times 4 = 192$.

59. Let angles are $9x$, $6x$ and $5x$

$$9x + 6x + 5x = 180^\circ$$

$$\Rightarrow 20x = 180$$

$$\Rightarrow x = \frac{180}{20} = 9$$

$$\text{Greatest angle} = 9 \times 9 = 81^\circ$$

$$\text{2nd largest angle} = 9 \times 6 = 54^\circ$$

$$\text{Smallest angle} = 9 \times 5 = 45^\circ$$

Hence, the greatest - smallest

$$= 80^\circ - 45^\circ = 36^\circ.$$

60. Volume of three metallic spheres

$$= \frac{4}{3} \pi (6^3 + 8^3 + 10^3)$$

$$= \frac{4}{3} \pi (216 + 512 + 1000)$$

$$= \frac{4}{3} \pi (1728) \text{ cm}^3$$

This volume = volume of the new sphere

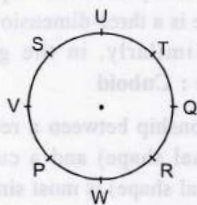
$$\frac{4}{3}\pi R^3 = \frac{4}{3}\pi(1728)$$

$$\Rightarrow R^3 = 1728 = (12)^3$$

$$R = 12 \text{ cm}$$

Hence, the diameter of the new sphere
 $= 12 \times 2 = 24 \text{ cm}$.

For Qn. No. 61 – 64:



61. Clearly, position of S with respect to W is third to right.
62. Clearly, V sits third to the right of R.
63. U Sits to the immediate right of S.
64. 4 friends are sitting between V and T from the right of T.
65. 2, 6, 7, 5, 4, 3, 7, 4, 8, 9, 4, 8, 9, 4, 3, 2, 5, 4, 7, 9, 8, 6, 8, 7, 1, 2, 5, 3, 7, 6, 8, 9, 3, 6

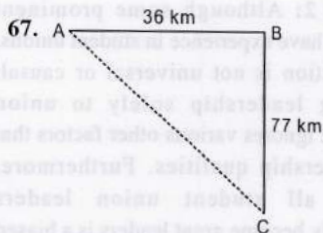
There are 3 seven which are immediately preceded by an even number and immediately followed by an odd number.

66. **Statement I:** Kritika is the heaviest among her friends.

This statement is false. While Kritika is heavier than Sunita, the information explicitly states that Renu is the heaviest: "Kritika is heavier than Sunita, but lighter than Renu."

Statement II: Jayanti is the lightest among her friends.

This statement is true. We know Anita is heavier than Jayanti, and all other options (Sunita, Renu, and Kritika) are heavier than Jayanti based on the given information.



$$(AC)^2 = (36)^2 + (77)^2$$

$$= 1296 + 5929$$

$$\Rightarrow AC^2 = 7225$$

$$\Rightarrow AC = 85$$

Hence, the distance between A and C = 85 km.

68. P denotes X

R denotes +

S denotes -

T denotes \div

$$16 \times 4 \div 8 + 12 - 5$$

$$= 8 + 12 - 5 = 20 - 5 = 15.$$

71. **Assumption 1** is not implicit in the statement. The statement doesn't make a claim about the effectiveness of written examinations for mediocre students.

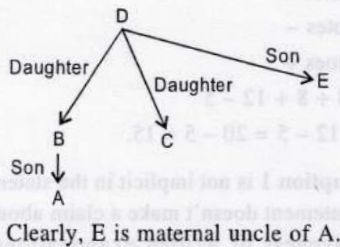
Assumption 2 is implicit because the statement suggests that even highly brilliant and industrious students may not always excel in written examinations, implying that writing good answers in exams is not guaranteed for such students.

72. **Argument 1:** While focusing on academics is important, it's overly simplistic to assume student unions inherently hinder career development. Participating in unions can develop valuable skills like leadership, communication, and project management, which can benefit future careers. Additionally, dismissing the social and civic roles of student unions overlooks their contributions to fostering campus life and promoting student well-being.

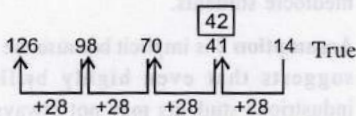
Argument 2: Although some prominent leaders may have experience in student unions, this connection is not universal or causal. Attributing leadership solely to union involvement ignores various other factors that shape leadership qualities. Furthermore, assuming all student union leaders automatically become great leaders is a biased generalization that doesn't consider individual abilities and diverse paths to leadership.

Therefore, both arguments have flaws and fail to provide strong support for either abolishing or endorsing student unions. They oversimplify complex issues and rely on generalizations or irrelevant connections.

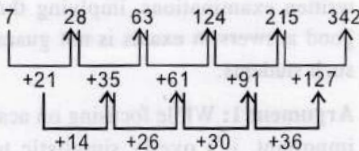
73.



74. I.



II.



Statement I is true but II is false.

75. In a certain code language

F L O W E R is written as

↓ ↓ ↓ ↓ ↓

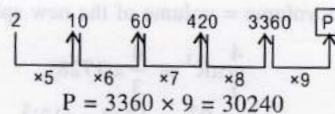
S E X O M F

G A R D E N is written as

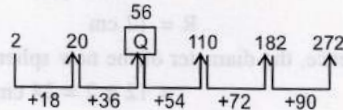
↓ ↓ ↓ ↓ ↓

O E E R B G

76. I.



II.



78. The relationship between "Square : Cube" is that a cube is a three-dimensional version of a square. Similarly, in the given options:
Rectangle : Cuboid

The relationship between a rectangle (a two-dimensional shape) and a cuboid (a three-dimensional shape) is most similar to the pair "Square : Cube."

79. **Virtue:** This refers to positive moral qualities like kindness, honesty, and fairness.

Sympathy: This involves showing understanding and care for someone in a difficult situation. It aligns with virtue as it is a compassionate and moral response.

Cruelty: This is the opposite of kindness and represents inflicting pain or suffering on others.

Vice: This refers to immoral or harmful qualities like cruelty, greed, and deceit.

Therefore, just as Sympathy aligns with Virtue due to its positive and compassionate nature, Cruelty directly opposes Virtue by representing its negative and harmful counterpart, making Vice the most suitable answer.

80. The relationship between the first two words is "individual component to collection." Grains make up a stock, and sticks make up a bundle.

81. **Statement:** In a T-20 cricket match, the number of runs scored by the Indian team was 212, and out of these, 160 runs were scored by spinners.

Inference 1: "10% of the Indian team consists of spinners."

This cannot be logically inferred from the given statement. The number of runs scored by spinners is mentioned, but it doesn't provide information about the percentage of spinners in the team.

Inference 2: "The opening batters were spinners."

This also cannot be logically inferred from the given statement. The statement mentions the runs scored by spinners but does not provide information about their batting order.

Therefore, the correct answer is: **Neither 1 nor 2**

87. Square root of 0.0625

$$= \sqrt{\frac{625}{10000}} = \frac{25}{100} = 0.25$$

88. $\begin{array}{c|c} -, + & +, + \\ \hline -, - & +, - \end{array}$

$(-6, 3)$ lies in second quadrant.

89. $120 + 60 = 180$

Hence, there are 180 people likely to buy a mobile phone with their first salary.

90. Total number of female
 $= 60 + 40 + 80 + 20 = 200.$

91. No. of female = 80
 No. of male = 60
 Difference = $80 - 60 = 20$

92. Tuesday of the week out of all three weeks rate of the pound the lowest.

93. $98.61 - 96.39 = 2.22$

$$\% \text{ increase} = \frac{2.22}{96.39} \times 100 = \frac{22200}{9639} = 2.3\%.$$

95. LCM of 15, 50, 60 and 75 = 300

The greatest number of 5 digit number
 $= 99999$

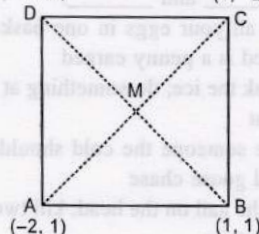
Now $300 \mid 99999$ (333

$$\begin{array}{r} 900 \\ \times 999 \\ \hline 900 \\ \times 999 \\ \hline 900 \\ \times 99 \end{array}$$

$$\therefore 99999 - 99 = 99900$$

Hence, the greatest no. of 5 digits which is divisible by 15, 50, 60 and 75
 $= 99900.$

96. $(-2, -2)$ $(1, -2)$



$$\begin{aligned} \text{Mid point of AC} &= \left(\frac{1-2}{2}, \frac{-2+1}{2} \right) \\ &= \left(-\frac{1}{2}, -\frac{1}{2} \right) \end{aligned}$$

Hence, diagonals meet in third quadrant.

$$\begin{aligned} 100. \quad 1^2 + 2^2 + 3^2 + \dots + 15^2 &= \frac{n(n+1)(2n+1)}{6} \\ &= \frac{15 \times 16 \times 31}{6} = 5 \times 8 \times 31 = 1240 \end{aligned}$$

Hence, sum of squares of first 15 natural numbers = 1240.