

IBPS RRB PO Pre 2025 Memory Based Paper Based on 22nd November 2nd Shift

Directions (1-5): Study the following information carefully and answer the questions given below.

“True wishes brings joy” is coded as “os ut yn kf”

“Aim true adventurous path” is coded as “kf rn sk ed”

“Strong aim brings courage” is coded as “ed ts yn kv”

“Path wishes comes true” is coded as “kf sk vb os”

Q1. What is the code for ‘Joy comes adventurous’?

- (a) vb rn sk
- (b) ts kv rn
- (c) vb ed rn
- (d) ut rn vb
- (e) os vb rn

Q2. Which word is coded as “kf”?

- (a) Aim wishes
- (b) True wishes
- (c) Aim true
- (d) Strong Path
- (e) Wishes Path

Q3. Which word is coded as “ed”?

- (a) Brings -
- (b) Comes -
- (c) Courage -
- (d) Strong -
- (e) None is correct?

Q4. What is the code for “True”?

- (a) kv ed
- (b) sk kv
- (c) ts ed
- (d) vb kb
- (e) Either “kv ed” or “ts ed”

Q5. Which among the following statements is/are false?

- I. Joy is not coded as “ut”
 - II. Adventurous is coded as “rn”
 - III. ‘True courage’ is definitely coded as “ts kf”
- (a) Only II
 - (b) Both II and III
 - (c) Both I and III
 - (d) Only I
 - (e) All I, II and III



Directions (6-10): Read the given information carefully and answer the related questions:

Nine persons A, B, C, D, E, F, G, H and I sit around a circular table facing inside but not in the same order as given.

G sits fourth to the right of B. Two persons sit between G and E. H sits fifth to the left of E. One person sits between H and A. D sits immediate right of F who sits third to the right of C.

Q6. What is the position of F with respect to H?

- (a) Second to the left
- (b) Third to the left
- (c) Immediate right
- (d) Fourth to the left
- (e) Immediate left

Q7. Four of the following pairs are related in a certain way. One pair is not related to the others. Which one of the following is not related to the others?

- (a) B - F
- (b) D - H
- (c) I - C
- (d) G - I
- (e) A - E

Q8. Who among the following sits third to the left of the one who sits opposite to D?

- (a) G
- (b) H
- (c) I
- (d) A
- (e) E

Q9. How many persons sit between A and E?

- (a) Five
- (b) Two
- (c) Four
- (d) Three
- (e) One

Q10. Who among the following sits immediate left of E?

- (a) A
- (b) I
- (c) F
- (d) C
- (e) B



Directions (11-14): In the question below, some statements are given followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements, disregarding commonly known facts. Give answer-

Q11. Statements:

Only a few gadget are good

Some manual are memory

No memory is gadget

Conclusions:

I. All good b

II. No gadg

(a) If only co

(b) If only co

(c) If either

(d) If neithe

(e) If both co

Q12. Statem

Only stadium

Some match

All match ar

Conclusions

I. No arena b

II. Some are

(a) If only co

(b) If only co

(c) If either

(d) If neithe

(e) If both co

Q13. Statem

Only a few city are market

All market is trade

Some trade is not urban

Conclusions:

I. Some city are trade

II. All urban being trade is a possibility

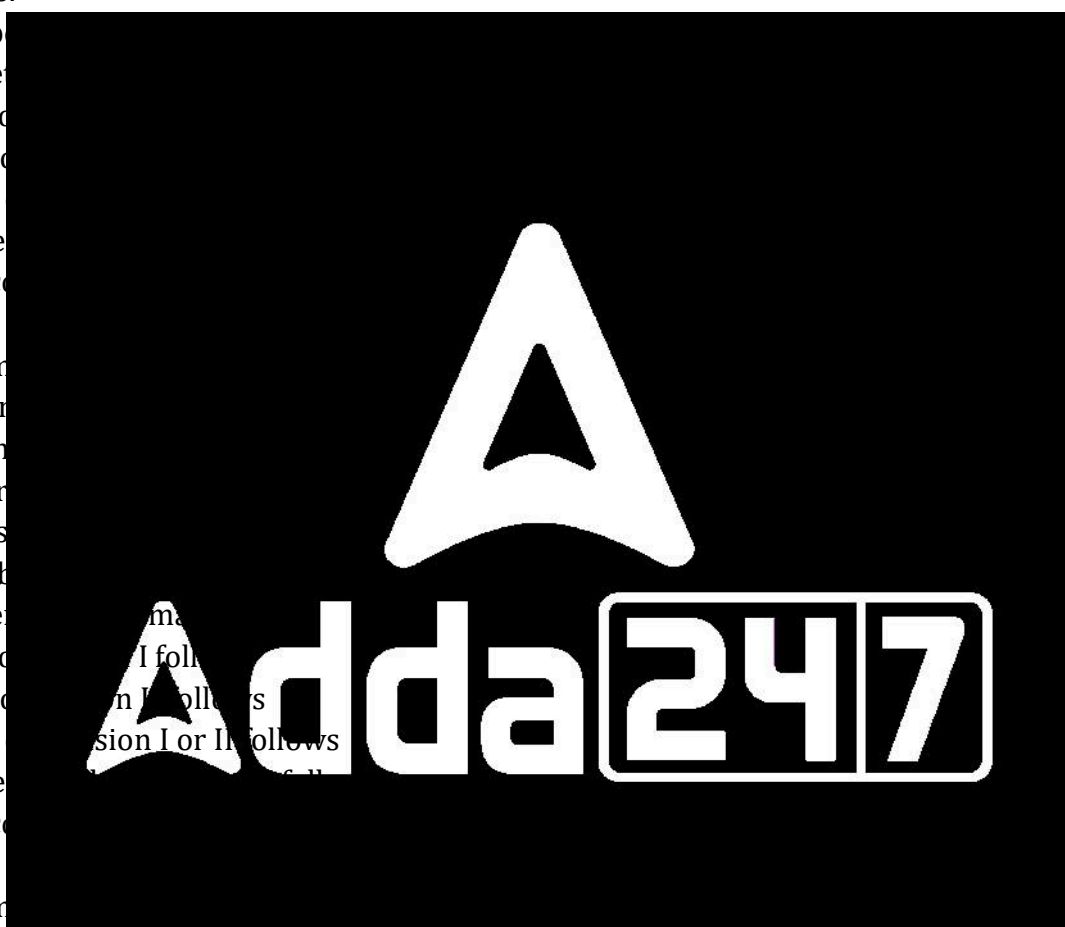
(a) If only conclusion I follows

(b) If only conclusion II follows

(c) If either conclusion I or II follows

(d) If neither conclusion I nor II follows

(e) If both conclusions I and II follow



Q14. Statements:

Only a few building are tower.

All floors are building

No tower is garden

Conclusions:

I. All floors are garden

II. Some floors are not garden

(a) If only conclusion I follows

(b) If only conclusion II follows

(c) If either

(d) If neither

(e) If both co

Directions

In a family of

sister-in-law

the family.

ully

B. C is

not married

7.

f H. B is the

member of

Q15. How is

(a) Uncle

(b) Brother

(c) Son

(d) Grandfather

(e) Son-in-law

Q16. If S is r

(a) Sister

(b) Daughter

(c) Brother

(d) Sister-in-law

(e) Can't be determined

Q17. How many female members are there in the family?

(a) Six

(b) Four

(c) Three

(d) Five

(e) Can't be determined



Q18. If in the given word "ERUPTION", all the even positioned letters (from left end) and consonants are changed to immediately succeeding letter, and remaining letters are changed to immediately preceding letter, then find how many letters are repeated in the new arrangement?

- (a) One
- (b) Three
- (c) Two
- (d) None
- (e) Four

Directions

Seven persons A, B, C, D, E, F and G are going to appear in an examination in a week starting from Monday to Sunday. The subjects of the examination are as follows: A is going to appear in Physics. The information given is as follows: B's exam is on Friday. C's exam is on the same day as the day between F's exam and C's exam. D's exam is on the same day as the day between F's exam and C's exam. E's exam is on the same day as the day between F's exam and C's exam. F's exam is on the same day as the day between F's exam and C's exam. G's exam is on the same day as the day between F's exam and C's exam. The number of days between the exam of A and the exam of B is the same as the number of days between the exam of C and the exam of D. D gives Zoology.

Q19. How many days are there between the exam of A and F's exam?

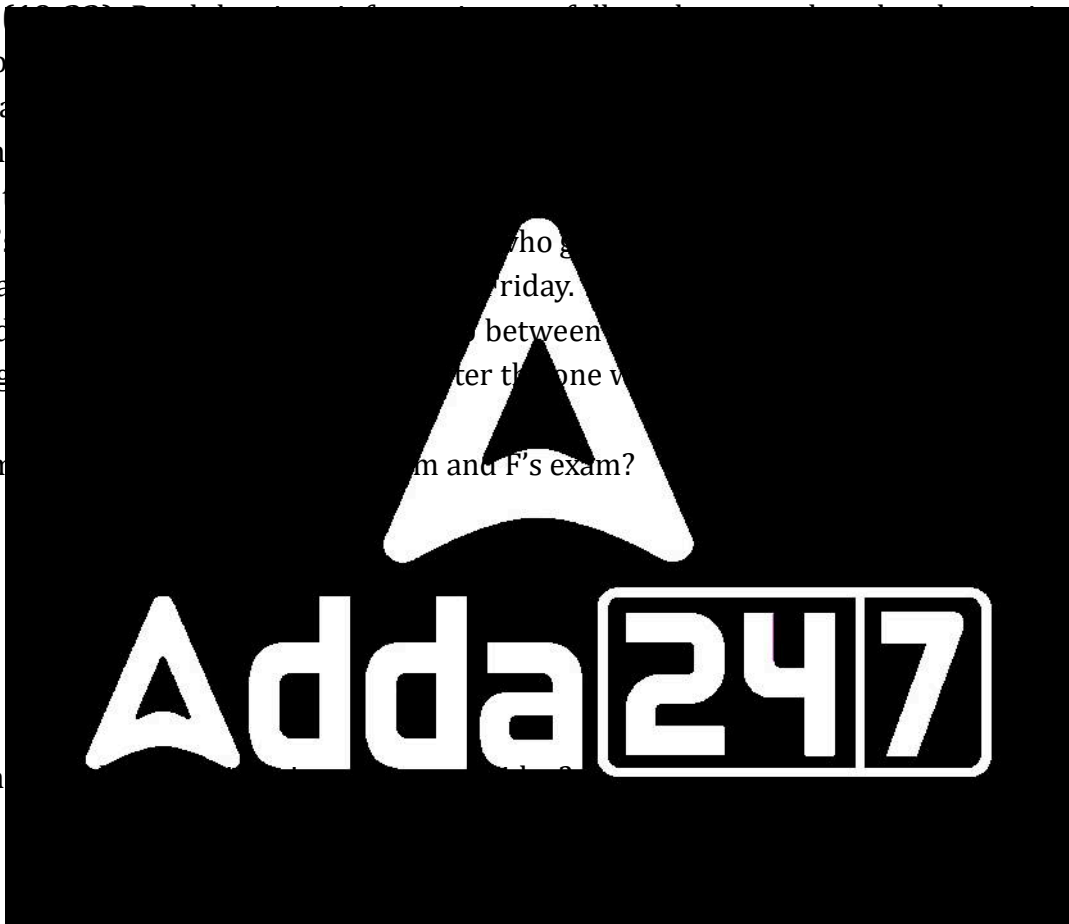
- (a) One
- (b) Two
- (c) None
- (d) Three
- (e) Four

Q20. Who is going to appear in the exam on Friday?

- (a) A
- (b) D
- (c) F
- (d) G
- (e) C

Q21. If D is related to Math, in the similar way, E is related to operation, then G is related to which subject?

- (a) Physics
- (b) Sociology
- (c) Urdu
- (d) History
- (e) Zoology



(a) E
(b) B
(c) F
(d) The one who gives exam on Sunday
(e) None of these

(a) Saturday – D - Zoology
(b) Friday – A - Urdu
(c) Sunday – [REDACTED]
(d) Monday – [REDACTED]
(e) Thursday – [REDACTED]

(a) 15
(b) 21
(c) 14
(d) 18
(e) 24

Q25. If “NEA” is written as “LMM”, then how is “SUN” written, such that the code for “SUN” is “MOZ”?

(a) UGNZ
(b) CUNV
(c) CMOZ
(d) ZUGN
(e) None of these

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Q26. Who is the third lightest person?

(a) C
(b) A
(c) E
(d) D
(e) None of these



Q27. If D weighs 25kg, then what is the possible weight of C?

- (a) 28 kg
- (b) 55 kg
- (c) 36 kg
- (d) 19 kg
- (e) 27 kg

Q28. Who is immediately heavier than C?

- (a) D
- (b) B
- (c) E
- (d) F
- (e) None of these

Directions (Q29-Q31):

Eight persons (A, B, C, D, E, F, G, H) are sitting in a circle facing outwards. The following information is given:
Eight persons are sitting in a circle facing outwards. A sits second from the left. B sits opposite to A. C sits third from the right of D. D sits second from the right of E. F sits opposite to G. H sits opposite to A. Three persons sit between A and B. Both the immediate neighbors of A face north. The person sitting opposite to A faces south. The person sitting to the left of A faces north. The person sitting to the right of A faces south. The person sitting to the left of B faces north. The person sitting to the right of B faces south. The person sitting to the left of C faces north. The person sitting to the right of C faces south. The person sitting to the left of D faces north. The person sitting to the right of D faces south. The person sitting to the left of E faces north. The person sitting to the right of E faces south. The person sitting to the left of F faces north. The person sitting to the right of F faces south. The person sitting to the left of G faces north. The person sitting to the right of G faces south. The person sitting to the left of H faces north. The person sitting to the right of H faces south.

Q29. What is the position of A?

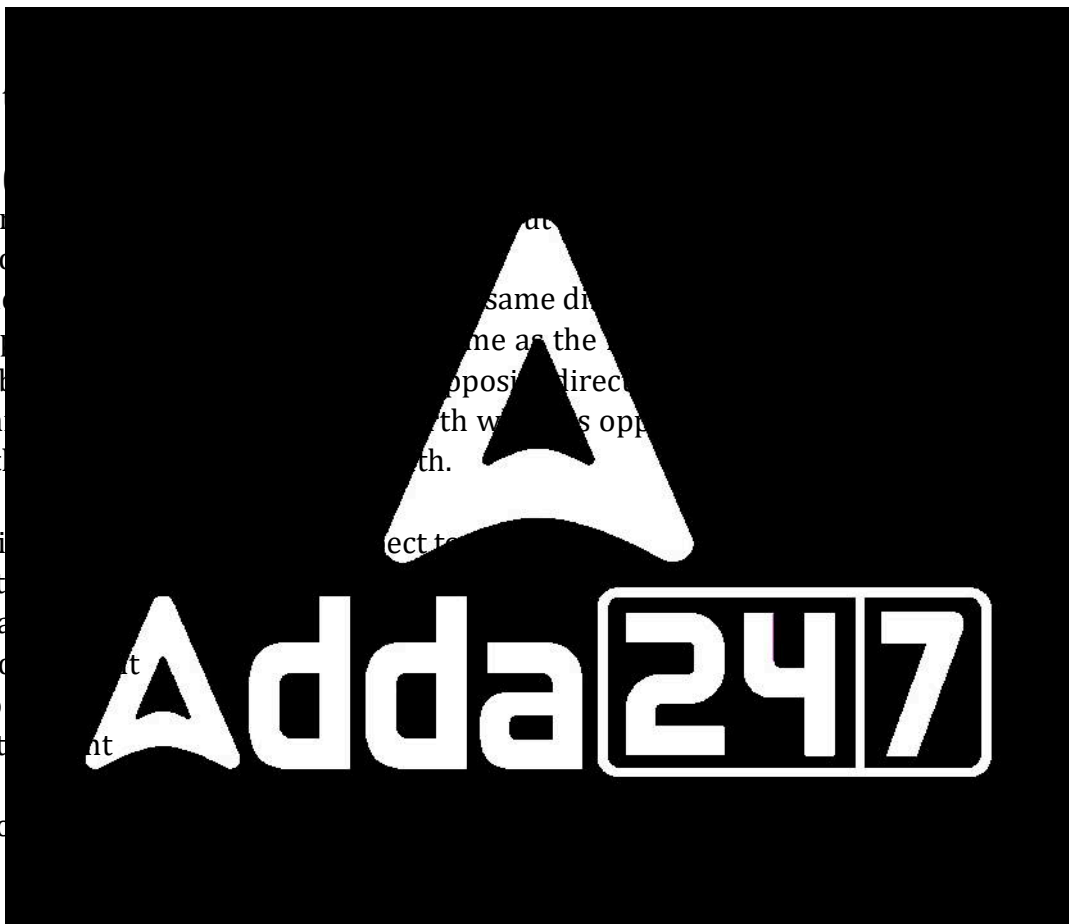
- (a) Second from the left
- (b) Immediate left of B
- (c) Fourth from the left
- (d) Third from the left
- (e) Fifth from the left

Q30. Four of the following is true:

- (a) A
- (b) H
- (c) E
- (d) G
- (e) D

Q31. How many persons sit to the left of E?

- (a) None
- (b) One
- (c) Two
- (d) More than three
- (e) Three



Q32. Which of the following statement is correct?

- I. G faces south
 - II. C is not the immediate neighbor of A and E
 - III. F and H sit immediate right to each other
- (a) Only I
 - (b) Only II
 - (c) Only III
 - (d) Only I and II
 - (e) Only II and III

Q33. Who among the following sits immediate left of E?

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

Q34. In the row of the persons sitting between them (both sides) in the row of the persons sitting between

- (a) One
- (b) None
- (c) More than three
- (d) Three
- (e) Two

Q35. Find the code for

- (a) MPS
- (b) BDF
- (c) TWZ
- (d) RUX
- (e) GJM

Directions

Eight persons were born in the years 1970, 1976, 1985, 1991, 2000 and 2010, on the same month and same date.

(Base year is considered as: 2025)

V is 9 years elder than P. The number of persons elder than P is two more than the number of persons younger than Q. Q is immediately elder than S. Three persons were born between S and W. R is elder than T but younger than U. U is not the eldest person

Q36. Who among the following was born in 1985?

- (a) Q
- (b) S
- (c) P
- (d) U
- (e) V

Q37. How many persons were born between W and R?

- (a) One
- (b) Two
- (c) Three
- (d) Four
- (e) Five

Q38. What is the difference between the age of Q and T?

- (a) 23 years
- (b) 32 years
- (c) 11 years
- (d) 34 years
- (e) 9 years

Q39. Who is the youngest person?

- (a) V
- (b) Q
- (c) P
- (d) S
- (e) W

Q40. What is the age of P?

- (a) 25 years
- (b) 15 years
- (c) 62 years
- (d) 34 years
- (e) 55 years

Directions (Q35 to Q40): Read the information and answer the following questions.

The table shows the ratio of the number of males to the number of females in five different companies.

Company	Ratio of Males to Females	Total Number of Employees
A		
B		
C	6:11	88
D	3:7	70
E	9:13	65

Q41. In company F, total number of females are 20% more than females in A and males are 20% less than that of females. Find the difference between total employees in F and E.

- (a) 56
- (b) 48
- (c) 29
- (d) 40
- (e) 57

Q42. Find the average number of males in D and B.

- (a) 39
- (b) 38
- (c) 35
- (d) 40
- (e) 37

Q43. The ratio of promoted to non-promoted from total employees in D is 2:3. Total females who got promoted in D is 25. Find the females who got promoted in D is what percentage of non promoted females in D.

- (a) 11.11
- (b) 22.22
- (c) 33.33
- (d) 44.44
- (e) 55.55

Q44. Find the difference between total males in B & C.

- (a) 5:6
- (b) 4:9
- (c) 10:13
- (d) 14:13
- (e) 5:7

Q45. Find the difference between total males and females in all the companies.

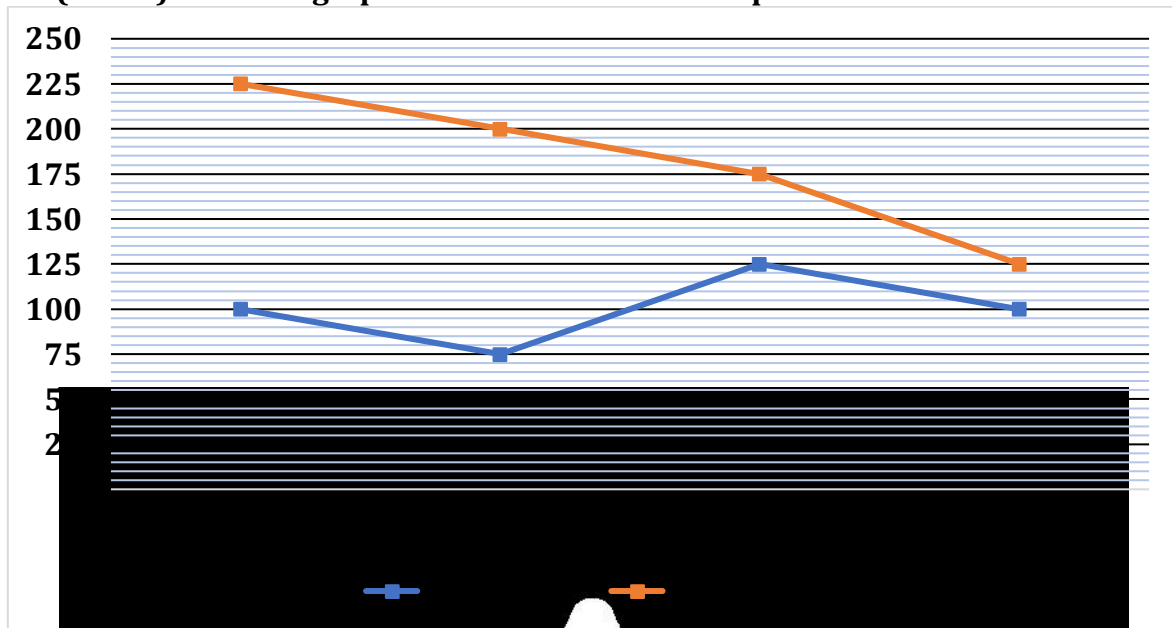
- (a) 102
- (b) 108
- (c) 109
- (d) 106
- (e) 100

Q46. The ratio of intern to permanent employees in C is 1:1 and out of that 25 are female intern. Find the permanent male employees in C.

- (a) 1
- (b) 2
- (c) 3
- (d) 4
- (e) 5



Directions (47-52): The line graph shows the number of cupboard and dashboard in four shops.



Q47. Find the number of dashboard in B.

- (a) 200
- (b) 100
- (c) 135
- (d) 140
- (e) 150

Q48. Find the ratio of the number of cupboards in B and C together to the number of dashboards in B and C together.

- (a) 6:5
- (b) 13:15
- (c) 3:5
- (d) 14:15
- (e) 15:16

Q49. Cupboard in A and dashboard in B together.

- (a) 60
- (b) 30
- (c) 25
- (d) 40
- (e) 50

Q50. If 20% of the cupboard sold from total cupboard in A and 45 dashboard sold out of total dashboard in B. find the sum of unsold dashboard in B and unsold cupboard in A.

- (a) 260
- (b) 230
- (c) 245
- (d) 240
- (e) 235

Q51. The ratio of defective to non defective cupboard in C is 3:2, find the non-defective cupboard in C is what percentage more/less than total dashboard in B.

- (a) 60
- (b) 50
- (c) 55
- (d) 75
- (e) 100

Q52. Find the cupboard in B is what percentage of dashboard in D.

- (a) 60
- (b) 30
- (c) 35
- (d) 40
- (e) 50

Q53. A 40 litre mixture contains 10 litres of milk and rest is water. If 5 litres of milk is added to it, then the ratio of milk to water in the mixture is 7: 9, then find the amount of water in the initial mixture.

- (a) 18
- (b) 12
- (c) 20
- (d) 14
- (e) 15

Q54. A spends 25% of his income on food and 14 $\frac{2}{7}$ % of the remaining income on transport. If he spends Rs 2000 on food, then find the income of A.

- (a) 21000
- (b) 72000
- (c) 18000
- (d) 81000
- (e) 66000

Q55. The average weight of 12 students in a class is 'y' kg. Two new students joined them with total weight of 72 kg and the average weight of the class is decreased by $\frac{y}{16}$ kg. If the weight of heavier student out of two students who joined is y – 24 kg, then find the difference between weight of two students who joined.

- (a) 10 kg
- (b) 4 kg
- (c) 12 kg
- (d) 8 kg
- (e) 6 kg

Q56. Shivam marked up an article 80% above its cost price and allowed 30% discount on it. Had he allowed only 20% discount on the article, then he would have earned Rs.108 more. Find cost price of the article.

- (a) Rs.900
- (b) Rs.700
- (c) Rs.800
- (d) Rs.500
- (e) Rs.600

Q57. The ratio of present age of A to B is 9:7 and present age of C is $\frac{100}{9}\%$ of the present age of A. If the average of present ages of A, B and C is 12 years, then the present age of A is

- (a) 8 years
- (b) 1 year
- (c) 7 years
- (d) 4 years
- (e) 5 years

Q58. A man invests Rs. 8000 in a scheme which offers simple interest at the rate of 10% per annum. After three years, he withdraws the amount. How much more money does he receive from the bank after 3 years than he would have received if he had invested the same amount in a scheme which offers compound interest at the rate of 10% per annum for 3 years?

- (a) Rs. 7200
- (b) Rs. 7400
- (c) Rs. 7700
- (d) Rs. 6050
- (e) Rs. 7550

Q59. There are three vessels P, Q and R. Vessel P contains 3/8th full of liquid, vessel Q contains 2/5th full of liquid and vessel R is empty. If the liquid from vessel P is poured into vessel Q and the liquid from vessel Q is poured into vessel R, then the liquid in vessel R is what percent of the capacity of vessel R?

- (a) 90.25%
- (b) 94.50%
- (c) 92.75%
- (d) 98.50%
- (e) 93.75%

Q60. The efficiency of A is 25% more than that of B, and the efficiency of C is 20% more than that of A. If A, B, and C together can complete a piece of work in 12 days, then in how many days can B alone complete the same work?

- (a) 40
- (b) 45
- (c) 35
- (d) 30
- (e) 50

Q61. A, B and C are three positive integers. The ratio of A to B is 4:5 respectively. C is 5 more than that of B. If the sum of A, B and C is 89, then find the value of C.

- (a) 30
- (b) 24
- (c) 35
- (d) 36
- (e) 40

Q62. The time taken by a boat to cover 40 km upstream is equal to the time taken by the boat to cover 60 km downstream. If the speed of the stream is 2 km/h, find the downstream speed of the boat (in km/h).

- (a) 8
- (b) 10
- (c) 12
- (d) 14
- (e) 18

Q63. A and B are two numbers. After one year, A added Rs 800 more to his capital and B added Rs 1000 more to his capital. The ratio of A to B is now 132:137.

- (a) 132:137
- (b) 135:139
- (c) 133:140
- (d) 131:140
- (e) 129:140

Q64. Train A and B are two trains. They cross each other in 72 seconds. The length of train B (in meters) is 120 meters.

- (a) 294
- (b) 280
- (c) 288
- (d) 274
- (e) 262

Q65. The perimeter of a rectangle is 210 m. The breadth is 40 m. Find the length of the rectangle.

- (a) 210
- (b) 208
- (c) 224
- (d) 215
- (e) 228

Directions (66- 70): Find out the wrong number.

Q66. 8, 17.5, 35, 105, 420, 2100, 12600

- (a) 17.5
- (b) 8
- (c) 105
- (d) 420
- (e) 2100

Q74. I. $2x^2 - 28x + 90 = 0$

II. $3y^2 + 8y + 4 = 0$

Q75. I. $x^2 + 31x + 108 = 0$

II. $y^2 - 21y + 98 = 0$

Directions (76-80): What approximate value will come in place of question mark (?) in the following questions (You are not expected to calculate the exact value).

Q76. $129\% \text{ of } 399 + \frac{9}{17} \text{ of } \sqrt{1150} = ?$

(a) 538

(b) 545

(c) 529

(d) 516

(e) 588

Q77. $(501 +$

(a) 30

(b) 25

(c) 20

(d) 15

(e) 5

Q78. $(309 \times$

(a) 19

(b) 33

(c) 25

(d) 23

(e) 31

Q79. $12^2 +$

(a) 500

(b) 450

(c) 598

(d) 657

(e) 980

Q80. $\sqrt{670} - \frac{5}{7} \text{ of } 20 + (24 - 5) = \sqrt{?}$

(a) 961

(b) 900

(c) 676

(d) 625

(e) 729



Solutions

Solutions (1-5):

Words	Codes
True	kf
Wishes	os
Brings	yn
Joy	ut
Aim	ed
Com	sk
Adventu	
Path	
Strong/Co	

S1. Ans.(d)

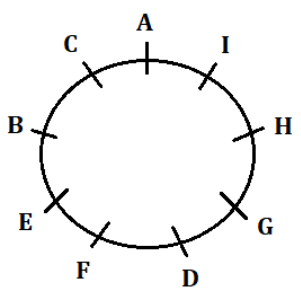
S2. Ans.(e)

S3. Ans.(b)

S4. Ans.(e)

S5. Ans.(c)

Solutions (6-10):



S6. Ans.(b)

S7. Ans.(e)

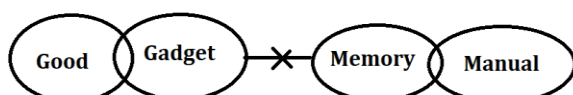
S8. Ans.(c)

S9. Ans.(d)

S10. Ans.(e)

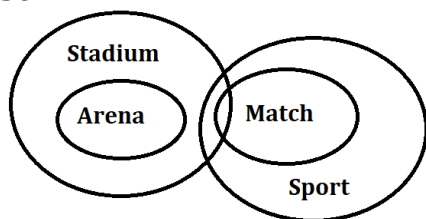
S11. Ans.(a)

Sol.



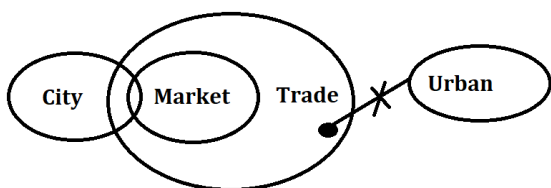
S12. Ans.(b)

Sol.



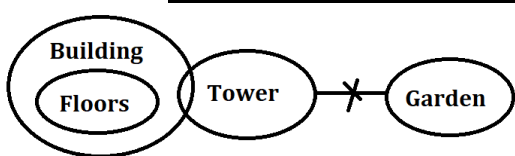
S13. Ans.(e)

Sol.



S14. Ans.(c)

Sol.



Solutions (19-23):

A (+) = H (-) — G (+)
 |
 B (-) — D (-) = F (+)
 |
 E (+) — C (-)

S15. Ans.(c)

S16. Ans.(d)

S17. Ans.(b)

S18. Ans.(d)

Sol. ERUPTION - DSTQUJNO

Solutions (19-23):

Days	Persons	Subjects
Monday	F	Math
Tuesday	D	Zoology
Wednesday	B	Operation
Thursday	E	History
Friday	A	Urdu
Saturday	G	Sociology
Sunday	C	Physics

S19. Ans.(e)

S20. Ans.(a)

S21. Ans.(c)

S22. Ans.(d)

S23. Ans.(b)

S24. Ans.(c)

Sol. 648319572 - 123456789

$$7 \times 2 = 14$$

S25. Ans.(d)

Sol. Opposite
positioned letters

and odd

S	A	L	T
X		X	
Z	U	G	N

Solutions (2)

B > D > C > E > A > F
13Kg

S26. Ans.(c)

S27. Ans.(d)

S28. Ans.(a)

Solutions (2)

D	G	B	F	H	A	C	E
↑	↑	↓	↑	↓	↑	↓	↑

S29. Ans.(c)

S30. Ans.(b)

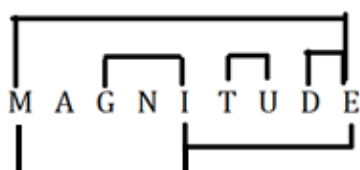
S31. Ans.(d)

S32. Ans.(c)

S33. Ans.(e)

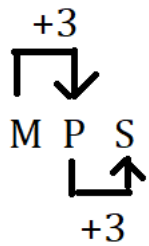
S34. Ans.(c)

Sol.



S35. Ans.(b)

Sol. Logic here is:



Solutions (36-40):

Years
1957
1963
1970
1976
1985
1991
2000
2010

S36. Ans.(b)

S37. Ans.(a)

S38. Ans.(d)

S39. Ans.(e)

S40. Ans.(b)

Solutions (41-45):

In A,

Males: females = 5

$$5x = 25$$

$$5 = x$$

$$7x = 35 = \text{males}$$

$$\text{Total} = 12x = 60$$

Similarly,

Companies	Males	Females	Total
A	$\frac{7}{5} \times 25 = 35$	25	60
B	$\frac{3}{4} \times 64 = 48$	64	112
C	$\frac{6}{11} \times 88 = 48$	88	136
D	$\frac{3}{7} \times 70 = 30$	70	100
E	$\frac{9}{13} \times 65 = 45$	65	110
Total	206	312	518

S41. Ans.(a)

Sol. Females in F = 120% of 25 = 30

Males in F = 80% of 30 = 24

Required answer = 110 - (30 + 24) = 56

S42. Ans.(a)

Sol. Required answer = $\frac{48+30}{2} = 39$

S43. Ans.(e)

Sol. Let the promoted and **non-promoted** employees be 2x and 3x respectively.

5x = 100

20 = x

Promoted employees = 20 × 2 = 40

non-promoted employees = 20 × 3 = 60

promoted females = 40 × 75% = 30

promoted males = 40 × 25% = 10

non-promoted females = 60 × 60% = 36

non-promoted males = 60 × 40% = 24

required answer = 30 + 10 + 24 = 64

S44. Ans.(c)

Sol. Required ratio = 20:26 = 10:13

S45. Ans.(d)

Sol. Required ratio = 100:136 = 25:34

S46. Ans.(e)

Sol. Intern : Permanent = 1:1 = 1x and 1x

2x = 136

68 = x

Total Interns = 68

Females interns = 68 × 75% = 51

Males interns = 68 - 51 = 17

Permanent male employees = 48 - 17 = 31

S47. Ans.(a)

Sol. Required answer = $\frac{100+200+300}{3} = 200$

S48. Ans.(b)

Sol. Required ratio = 100 + 225:200 + 175 = 325:375 = 13:15

S49. Ans.(c)

Sol. Required answer = (225+200) - (100+75+125+100) = 425 - 400 = 25

S50. Ans.(e)

Sol. Total cupboard in A = 100

Cupboard sold in A = 20% of 100 = 20

Unsold Cupboard in A = 100 - 20 = 80

Total dashboard in B = 200

dashboard sold in B = 45

Unsold dashboard in B = 200 - 45 = 155

Required answer = 155 + 80 = 235

S51. Ans.(d)

Sol. defective

$$5x = 125$$

$$25 = x$$

non defective

required answer

S52. An. (a)

Sol. Required

S53. Ans.(b)

Sol. Quantities

Quantity of

ATQ,

$$\frac{(X - 10 \times \frac{X}{40})}{40 - X - 10 \times \frac{40 - X}{40}}$$

$$\frac{\frac{3X}{4}}{58 - X - \frac{40 - X}{4}} =$$

$$27X = (192 - X)$$

$$27X + X = 192$$

$$48X = 1344$$

$$X = 28$$

Quantity of water in the initial mixture = 40 - 28 = 12 liters

S54. Ans.(a)

Sol. Let the income of A be 210x

Amount spend on food = $210x \times \frac{1}{3} = 70x$

Amount spend on transport = $210x \times \frac{2}{3} \times \frac{1}{7} = 20x$

$$70x + 20x = 9000$$

$$x = 100$$

Income of A = Rs. 21000



S55. Ans.(d)

Sol. ATQ, $\frac{12y+72}{14} = y - \frac{y}{16}$

$$96y + 576 = 105y$$

$$9y = 576$$

$$y = 64$$

Weight of heavier student out of two students who joined = $(64 - 24) = 40$ kg

Weight of lighter student out of two students who joined = $40 - (72 - 40) = 8$ kg

S56. Ans.(e)

Sol. Information Given in the Question:

Marked up by 80%

Two discounts

Case 1: 30%

Case 2: 20%

Profit difference

Concept/Formula

Marked Price = $\frac{100}{100 + p\%} \times \text{Selling Price}$

Selling Price

Profit = SP - CP

Detailed Explanation:

Let cost price = x

So, marked price = $1.80x$

And, original selling price = $1.80x \times \frac{7}{10} = \text{Rs.} 126x$

And, new selling price = $1.80x \times \frac{4}{10} = \text{Rs.} 72x$

ATQ,

$$144x - 126x = 18$$

$$x = 6$$

Required cost price = $1.80 \times 10 = \text{Rs.} 180$

S57. Ans.(d)

Sol. Information Given:

Present age of A = $9x$ years

Present age of B = $7x$ years

Average present age of A, B, C = 22 years 8 months

Concept/Formula Used in the Question:

Percentage conversion: $(100/9)\% = 100/900 = 1/9$

Average = (Sum of quantities) / Number of quantities

Detailed Explanation:

Let the present age of A & B be $9x$ years and $7x$ years respectively.

So, the present age of C = $\frac{1}{9} \times 9x = x$ years

$$\frac{x+9x+7x}{3} = 22 + \frac{8}{12} = \frac{68}{3}$$

$$17x = 68$$

$$x = 4$$

Present age of C = 4 years

S58. Ans.(d)

Sol. Information Given in the Question:

Principal (P) = Rs. X

Simple Interest Rate = 24% p.a.

Time = 3 years

Total Simple Interest = Rs. 3600

Same Principal invested at 10% p.a. compound interest for 2 years

We need to find the **total amount** received after 2 years (Principal + CI)

Concept/Formula Used in the Question:

Simple Interest (SI) Formula:

$$SI = (P \times R \times T) / 100$$

Compound

Equivalent r

Detailed Ex

ATQ,

$$X \times 24 \times 3 / 100 = 3600$$

$$X = \text{Rs. } 5000$$

Equivalent r

Required an

Rs. 6050

S59. Ans.(e)

Sol. Inform

Equal quant

Vessel P bec

Vessel Q bec

Need to find

Detailed Ex

Let the capa

ATQ,

$$\frac{3}{8} \text{ of vessel P} = \frac{2}{5} \text{ of vessel Q}$$

$$\frac{P}{Q} = \frac{16}{15}$$

$$\frac{P}{Q} = \frac{16}{15}$$

$$\text{Required \%} = \frac{15}{16} \times 100 = 93.75\%$$

$$\text{Required \%} = \frac{15}{16} \times 100 = 93.75\%$$

S60. Ans.(b)

Sol. Information Given in the Question:

A is 25% more efficient than B.

C is 20% more efficient than A.

A + B + C together can complete the work in 12 days.

Concept/Formula Used in the Question:

Efficiency is inversely proportional to time taken.

Total work = Efficiency $\times$ Time

Time = Total Work / Efficiency

Detailed Explanation:

Let B's efficiency be 100 units.

Then,

A's efficiency = $100 + 25\%$ of $100 = 125$ units

C's efficiency = $125 + 20\%$ of $125 = 150$ units

Combined efficiency of A, B, and C = $125 + 100 + 150 = 375$ units/day

Total work = Efficiency $\times$ Time = $375 \times 12 = 4500$ units

Now, B's efficiency = 100 units/day

So, time taken

S61. Ans.(c)

Sol. Information

A : B = 4 : 5

C = B + 5

A + B + C = 80

Detailed Explanation:

Let:

A = $4x$

B = $5x$

C = $5x + 5$

Then,

A + B + C = 80

Set equal to 80

$14x + 5 = 80$

$\Rightarrow 14x = 75$

$\Rightarrow x = 5$

Now,

B = $5x = 25$

C = $25 + 5 = 30$

S62. Ans.(c)

Sol. Information Given in the Question:

Upstream distance = 40 km

Downstream distance = 60 km

Speed of stream = 2 km/h

Time for upstream = Time for downstream

Concept/Formula Used in the Question:

Let speed of boat in still water = x km/h

Upstream speed = $(x - 2)$ km/h

Downstream speed = $(x + 2)$ km/h

Time = Distance / Speed



$$\text{Time taken upstream} = \frac{40}{x-2}$$

$$\text{Time taken downstream} = \frac{60}{x+2}$$

$$\frac{40}{x-2} = \frac{60}{x+2}$$

$$40(x + 2) = 60(x - 2)$$

$$40x + 80 = 60x - 120$$

$$80 + 120 = 60x - 40x$$

$$200 = 20x$$

$x = 10 \text{ km/h}$ (boat's speed in still water)

S63. Ans.(e)

Sol. Inform.

A's initial inv

B's initial in

After 4 mon

A added Rs :

B withdrew

So B's new i

Total duration

Concept/Fo

Profit sharing

Detailed Ex

The profit-s

$$= 5200 \times 4 + 800 \times 6 + 900 \times 7 + 500 \times 8$$

$$= 5200 \times 1 + \dots \times 7 + 8000 \times \dots + 0000 \times \frac{2}{\dots} \times \dots$$

$$= 17200 : 56 = 307$$

$$= 51600 : 56$$

$$= 129:140$$

S64. Ans.(a)

Sol. Information Given in the Question:

Time taken by Train A to cross a pole = 15 seconds

Length of Train A = 570 meters

Time to cross Train B in same direction = 72 seconds

Speed of Train B = 26 m/s

Need to find: Length of Train B

Concept/Formula Used in the Question:

$$\text{Speed} = \text{Distance} / \text{Time}$$

When two trains move in the same direction, relative speed = Speed of faster train – Speed of slower train

$$\text{Time to cross another train} = (\text{Sum of lengths}) / (\text{Relative speed})$$

Detailed Explanation:

Speed = Distance / Time = $570 / 15 = 38$ m/s

Relative speed of A with respect to B

= $38 - 26 = 12$ m/s

Let the length of Train B = x meters

Time to cross Train B = 72 seconds

Total distance to cross = $570 + x$

$(570 + x) / 12 = 72$

$570 + x = 72 \times 12 = 864$

$x = 864 - 570 = 294$ meters

S65. Ans.(b)

Sol. Inform

Perimeter =

Length = Br

Need to find

Concept/For

Perimeter o

Area = Leng

Detailed Ex

Let breadth

Then, length

Perimeter =

$\Rightarrow 2(2x + 3)$

$\Rightarrow 4x + 6 = 5$

$\Rightarrow 4x = 52$

$\Rightarrow x = 13$ cm

So, breadth

Area = length

S66. Ans.(b)

Sol. The pat

17.5,	17.5,	35,	105,	420,	2100,	12600
$\times 1$	$\times 2$	$\times 3$	$\times 4$	$\times 5$	$\times 6$	

S67. Ans.(b)

Sol. The pattern of the series:

201,	205,	214,	230,	255,	291,	340
4	9	16	25	36	49	

S68. Ans.(e)

Sol. The pattern of the series:

24,	13,	14,	22,	45,	113.5,	341.5
$\times 0.5 + 1$	$\times 1 + 1$	$\times 1.5 + 1$	$\times 2 + 1$	$\times 2.5 + 1$	$\times 3 + 1$	

S69. Ans.(c)

Sol. The pattern of the series:

117, 136, 159, 188, 219, 256, 297
19 23 29 31 37 41

S70. Ans.(a)

Sol. The pattern of the series:

28.5, 30.5, 63, 191, 766, 3832, 22994
 $\times 1 + 2$ $\times 2 + 2$ $\times 3 + 2$ $\times 4 + 2$ $\times 5 + 2$ $\times 6 + 2$

S71. Ans.(b)

Sol. I. $3x^2 - x - 4 = 0$

$3x^2 - 4x + 3x - 4 = 0$

$x(3x-4) + 1(3x-4) = 0$

$x = -1, 4/3$

II. $3y^2 + 16y + 13 = 0$

$3y^2 + 13y + 3y + 13 = 0$

$y(3y+13) + 1(3y+13) = 0$

$y = -1, -13/3$

So, $x \geq y$

S72. Ans.(e)

Sol. I. $2x^2 - x - 9 = 0$

$2x^2 - 10x + 9x - 9 = 0$

$2x(x-5) + 9(x-5) = 0$

$x = 5, -4.5$

II. $3y^2 + 16y + 21 = 0$

$3y^2 + 9y + 7y + 21 = 0$

$3y(y+3) + 7(y+3) = 0$

$y = -3, -7/3$

So, no relation

S73. Ans.(c)

Sol. I. $2x^2 + 20x + 32 = 0$

$2x^2 + 16x + 4x + 32 = 0$

$2x(x+8) + 4(x+8) = 0$

$x = -2, -8$

II. $3y^2 + 7y + 4 = 0$

$3y^2 + 3y + 4y + 4 = 0$

$3y(y+1) + 4(y+1) = 0$

$y = -1, -\frac{4}{3}$

$x < y$

S74. Ans.(a)

Sol. I. $2x^2 - 28x + 90 = 0$

$$2x^2 - 18x - 10x + 90 = 0$$

$$2x(x-9) - 10(x-9) = 0$$

$$x = 5, 9$$

II. $3y^2 + 8y + 4 = 0$

$$3y^2 + 6y + 2y + 4 = 0$$

$$3y(y+2) + 2(y+2) = 0$$

$$y = -2, -\frac{2}{3}$$

$$x > y$$

S75. Ans.(c)

Sol. I. $x^2 + 31x + 108 = 0$

$$x^2 + 27x + 4x + 108 = 0$$

$$x(x+27) + 4(x+27) = 0$$

$$x = -4, -27$$

II. $y^2 - 21y + 98 = 0$

$$y^2 - 14y - 7y + 98 = 0$$

$$y(y-14) - 7(y-14) = 0$$

$$y = 7, 14$$

$$y > x$$

S76. Ans.(a)

Sol. $130\% \text{ of } \frac{9}{17} \text{ of } 56 = ?$

$$520 + \frac{9}{17} \times$$

$$520 + 18 =$$

$$538 = ?$$

S77. Ans.(d)

Sol. $\frac{501+99}{8} = ? \times \sqrt[3]{125}$

$$75 = ? \times 5$$

$$15 = ?$$

S78. Ans.(e)

Sol. $(310 \times 90) \div 31 + 61 = ?^2$

$$900 + 61 = ?^2$$

$$961 = ?^2$$

$$31 = ?$$

S79. Ans.(a)

Sol. $12^2 + 8 + 59\% \text{ of } 90 = ? \% \text{ of } 40 + 5$

$$144 + 8 + \frac{60}{100} \times 90 = \frac{?}{100} \times 40 + 5$$

$$200 = \frac{?}{100} \times 40$$

$$? = 500$$

S80. Ans.(b)

Sol. $\sqrt{676} - \frac{5}{7} \text{ of } 21 + (24 - 5) = \sqrt{?}$

$$26 - 15 + 19$$

$$30 = \sqrt{?}$$

$$900 = ?$$

