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A COMPLETE EXAM GUIDER

IBPS RRB PO/Officer Assistant Scale I – Model paper 2

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IBPS RRB PO/Officer Assistant Scale I – Model paper 2

Q.1) Four years ago the ratio of father's age to son's age was 8:1 and ratio of present age of mother and son is 4:1. If the sum of present ages of mother and son is 4 years more than the father's present age, find father's present age.
a) 32 years
b) 38 yearsgo
c) 36 years
d) 34 years
e) None of these
Q.2) The ratio of speed of boat in still water to speed of stream is 5:3. If the boat goes 24 km distance in downstream and returns to the starting point in 15 hours. Find the speed of stream.
a) 5 km/hr
b) 3 km/hr
c) 2 km/hr
d) 4 km/hr
e) 6 km/hr
Q.3) Two trains start from same station in different times at a speed of 60 km/hr and 72 km/hr respectively and the ratio of length of faster and slower trains is 3:2. If fast train overtakes the slower train in 150 sec, find the length of the faster train.
a) 200 m
b) 400 m
c) 300 m
d) 250 m
e) 350 m
Q.4) 40 litre solution contains milk and water in the ratio of 3:2. If some amount of mixture is taken out then the ratio of milk and water in the remaining mixture is unchanged. Find the amount of mixture replaced.
a) 10 litres
b) 5 litres
c) 15 litres
d) Cannot be determined.
e) None of these
Q.5) If a card is drawn from a pack of 52 cards, What is the probability of getting a queen?
a) $\frac{1}{56}$
b) $\frac{1}{13}$

c) $\frac{1}{14}$
d) $\frac{1}{26}$
e) $\frac{2}{13}$

D.6-10) Find what value should come in place of '?'

Q.6) 2 10 34 82 ?
a) 162
b) 200
c) 240
d) 170
e) None of these

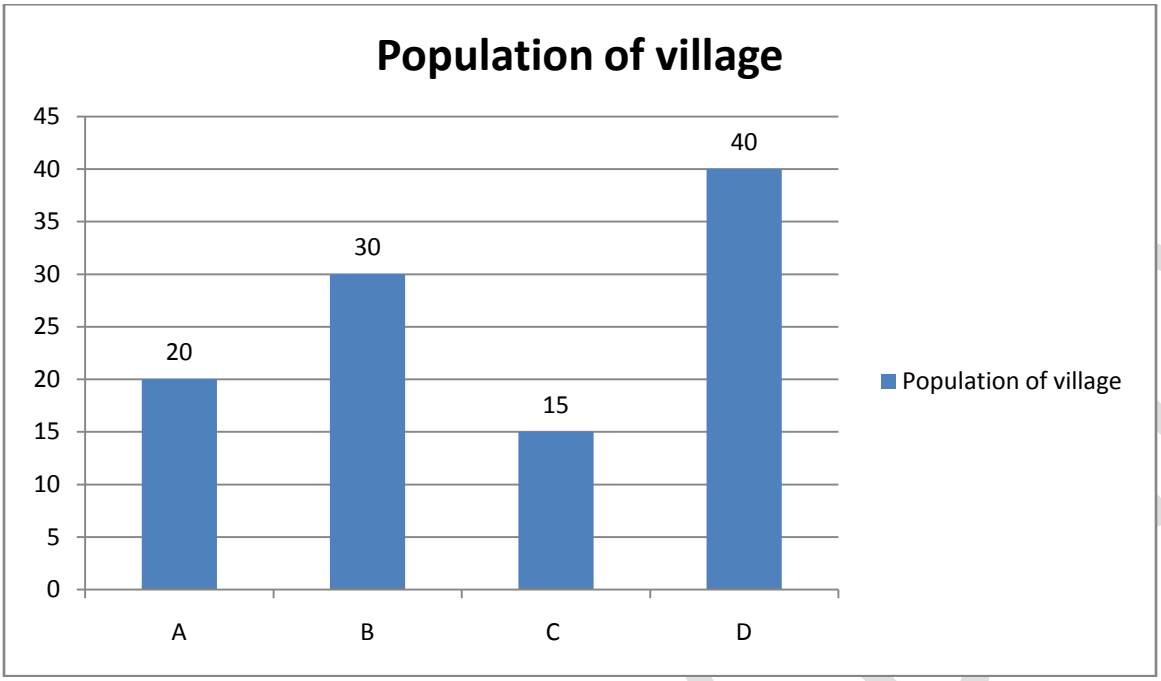
Q.7) 2 3 10.5 57.75 ?
a) 333.125
b) 433.125
c) 533.125
d) 222.75
e) None of these

Q.8) ? 57 1083 20577 390963
a) 4
b) 3
c) 5
d) 6
e) None of these

Q.9) 30 38 ? 68 92 122
a) 40
b) 60
c) 70
d) 50
e) None of these

Q.10) 120 116 ? 91 66 30
a) 110
b) 107
c) 120
d) 130
e) None of these

D.11-15) Study the graph and answer accordingly
The below graph shows the population of different villages (in thousands)



The following table shows the ratio between male and female also for ratio between illiterate to literate

Villages	Literate : illiterate	Male: female
A	2:3	1:1
B	3:2	2:1
C	1:4	1:2
D	4:1	5:3

Q.11) Find the ratio between the number of females in village A to the number of literates in village C?
a) 15:2
b) 10:3
c) 17:3
d) 10:3
e) None of these
Q.12) Find the difference between the total number of illiterates to the total number of literates from all the villages
a) 13500
b) 17000
c) 15000
d) 10000
e) 13000
Q.13) Village Z is nearer to village B. And the village Z has a population, which is 20% of the total population of all the villages together and the female population of village Z is twice that of female population of village C. Then find the male population in village Z.
a) 1800
b) 2000
c) 1500
d) 1000
e) None of these
Q.14) Find the total number of males in Village A, C and D
a) 45000
b) 40000
c) 35000
d) 42000
e) None of these
Q.15) what percentage of Males is more than that of females in all the villages?
a) 52.42%
b) 33.33%
c) 62.5%
d) 72.5%
e) None of these
D.16-20) Find what value should come in place of '?'
Q.16) $? = 45\% \text{ of } 180 + 33\% \text{ of } 200 - 12\% \text{ of } 350 + 23\% \text{ of } 400$
a) 185
b) 197
c) 188
d) 213
e) 208
Q.17) $(122 \times 42 \div 12 + 72 \div 36 \times 25) \div 3 = ? + 24$
a) 142

b) 135
c) 120
d) 145
e) None of these

Q.18) $? = (12^2 + 44 - 8^2) \div \sqrt[3]{64} \times 6^2 - 11^2 + 28$
a) 1203
b) 1017
c) 1066
d) 1023
e) None of these

Q.19) $? = \sqrt{324} \times \sqrt{256} \div \sqrt[3]{216} \times \sqrt[3]{512}$
a) 284
b) 312
c) 384
d) 288
e) 326

Q.20) $? = 2\frac{2}{3} - 3\frac{5}{6} + 5\frac{1}{4} + 4\frac{3}{8}$
a) $7\frac{17}{60}$
b) $9\frac{1}{20}$
c) $6\frac{3}{20}$
d) $8\frac{11}{24}$
e) None of these

Q.21) P, Q and R do a certain piece of work in 15, 20 and 30 days. P and Q start a work and after 3 days R joins them and after 3 days C and D replace X,Y and Z. C and D does the work in 4 days and received wages Rs 12000.C takes 5days more than the of time taken by C and D together .Then what did C received as wage?
a) 9600
b) 6000
c) 7000
d) 8000
e) None of these

Q.22) Three inlet pipes X,Y and Z fill the tank in 10,20 and 20 hours respectively. All the three pipes are opened initially and after 2 hours X is closed and pipe Y is closed 2 hours before the tank is filled. So the remaining part is filled by Z alone. In how many hours the tank is filled?
a) 10 hour
b) 9 hours
c) 13 hours
d) 15 hours
e) None of these

Q.23) The average salary received by persons in a family is 70000.The average salary of five persons in the family is 40000 and the total of remaining persons salary is 500000.Then find the number of persons in the family

a) 12
b) 10
c) 11
d) 13
e) None of these.

Q.24) A started a business with an amount of Rs.20000, after 6 months B joined him by investing Rs.5000 and after another 3 months B invests Rs.5000 and C invests Rs.15000 for 3 months. If they received a total profit of Rs.15400.Find the sum of A and B share
a) 20100
b) 13300
c) 10100
d) 20300
e) None of these

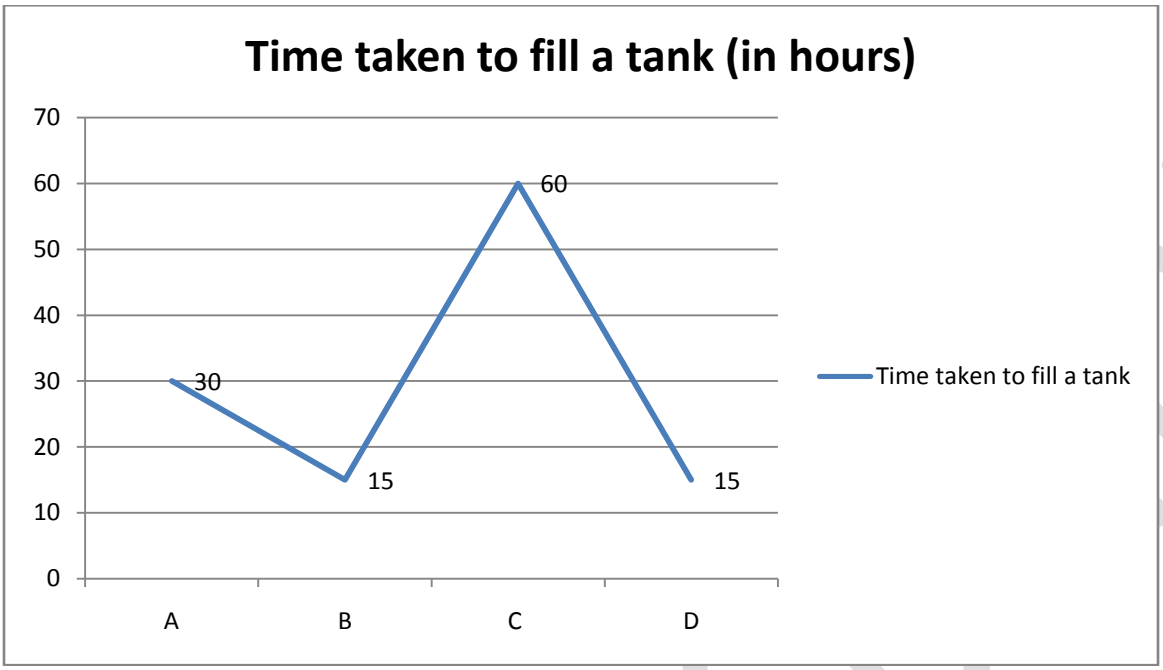
Q.25) In Village B 40% are male. From that 20% of male are literate and 30% of male literates are degree holders. There are 840 male literates are non-degree holders .Find the total population in village B.
a) 15000
b) 10000
c) 20000
d) 25000
e) None of these

D.26-30) Study the following table and answer accordingly:
The following table shows the information of different types of bats

Name of the cricket bats	Cost price (Rs.)	Profit %	Marked price (Rs.)
Bat 1	1500	10	2000
Bat 2	2000	20	2500
Bat 3	1000	15	1500
Bat 4	2500	10	3000

Bat 5	1000	30	2000

Q.26) Find the sum of the selling prices of Bat 1 and Bat 2.
a) Rs.4050
b) Rs.5050
c) Rs.6050
d) Rs.5000
e) None of these
Q.27) Find the approximate discount % of Bat 3.
a) 23.3 %
b) 33.3%
c) 43.3%
d) 53.3%
e) None of these
Q.28) The selling price of bat 6 is 20% more than the Selling Price of bat 3 and the discount % is equal to the twice the profit % of bat 1.Find the Marked price for bat 6.
a) 1825
b) 1725
c) 1925
d) 2000
e) None of these
Q.29) Find the difference between the selling price for Bat 2 and Bat 4.
a) 350
b) 450
c) 650
d) 750
e) None of these
Q.30) Find the sum of selling price of Bat 2 and bat 3.
a) 3550
b) 2250
c) 4350
d) 3450
e) None of these
D.31-35) Study the following graph and answer accordingly
The following line graph shows the Time taken by four pipes to full an empty tank.



The following table shows the comparison of efficiency between A,B,C ,D and to P,Q,R,S(either inlet or outlet)

Pipes	Efficiency
P	2A
Q	½ B
R	3C
S	¼ D

Q.31) Initially both the pipes A and C are opened together to fill a tank and when the tank was 1/3rd full ,a leak developed, through which $\frac{1}{4}th$ of the water supply by both the pipes leaked out .Find after how many hours the tank be full.

a) $17(\frac{7}{9})hours$

b) $\frac{55}{3}$ hours

c) $\frac{11}{3}$ hours

d) 16 hours

e) None of these

Q.32)Find the time taken to fill the tank when all the inlet pipes A,B,C and D are opened together and also when two outlet pipes P and Q are opened together.

a) 12hours
b) 10hours
c) 13hours
d) 7 hours
e) None of these

Q.33) Four pipes C,D,P and Q can fill a tank . When initially the tank is empty pipes C, D, P and Q start to fill the tank .After two hours pipe C is closed, after another 1hour pipe D is closed and Pipe P is closed 2 hours before the tank is full and the remaining part is filled by pipe Q alone .Find the time taken by all the pipes together to fill the tank.

a) $9\ hours$
b) $12\ hours$
c) $16\ hours$
d) 20 hours
e) None of these

Q.34) Initially two inlet pipes A and D are opened for two hours and the remaining part is filled by pipe Q alone .Find the time taken by pipe Q to fill the remaining tank?

a) 22 hours
b) $24\ hours$
c) $34\ hours$
d) 23 hours
e)None of these

Q.35) Two inlet pipes A and B fill the tank and two outlet pipes R and S empty the tank. All the four pipes are opened together. Find the time taken to full the tank

a) $20\ hours$
b) $30\ hours$
c) $25\ hours$
d) 60 hours
e) None of these

D.36-40) In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer.

Q.36) $\text{I.}\ x^2 + \sqrt{5}x - 150 = 0$
$\text{II.}\ y^2 + 3\sqrt{7}y + 14 = 0$

a) x > y
b) x < y
c) x ≥ y
d) x ≤ y
e) x = y or relation cannot be established between 'x' and 'y'.

Q.37) I.$3x^2$-x-10=0
II.$3x^2$-x-2=0

a) x > y
b) x < y
c) x ≥ y
d) x ≤ y
e) x = y or relation cannot be established between 'x' and 'y'.

Q.38) I.$x^2+13x+40=0$
II.$y^2+7y+12=0$
a) x > y
b) x < y
c) x ≥ y
d) x ≤ y
e) x = y or relation cannot be established between 'x' and 'y'.
Q.39) I. $x^2-30x+216=0$
II. $y^2-29y+210=0$
a) x > y
b) x < y
c) x ≥ y
d) x ≤ y
e) x = y or relation cannot be established between 'x' and 'y'.
Q.40) I. $x^2-30x+221=0$
II. $y^2-36y+323=0$
a) x > y
b) x < y
c) x ≥ y
d) x ≤ y
e) x = y or relation cannot be established between 'x' and 'y'.

D.1-5) Read the following information carefully and answer the question given below.

Mani, Ram, Pinky, Ratha, Priya, Goki, Karthi, Mathu, Pritha and Pranav are ten friends. They are gone to attend Conference on five different Months Viz. January, April, May, October and August. The conference was held on two different dates of the above month (i.e. 3rd and 13th). Not more than one person attends conference on same date. All the above information is not necessarily in the same order. Pranav attends Conference on 3rd of the month which has less than 31 days. Only three persons attend conference between Pranav and Karthi. Goki attends conference on 13th of the month which has 31 days but not May and January. No one attends conference before Ram. Only one person attends conference between Goki and Pinky, who does not attend conference in May month. Mani and Priya attend conference on same month respectively. Madhu attends conference on 3rd of one of the month. Number of persons attends conference after Madhu is same as number of attends conference before Pritha. Goki does not attend conference immediately after Madhu.

Q.1) Four of the following five are alike in certain way based on the arrangement, find the one which does not belongs from the group?
a) Mani
b) Karthi
c) Ram
d) Pinky
e) Pranav
Q.2) Which of the following statement is false?
a) Pinky attends conference on the month which has 31 days
b) Only two persons attend conference between Pritha and Mani

c) Goki does not attends conference on 3rd August
d) All are true
e) Ratha attends conference on 13th may
Q.3) Which of the following combination is true?
a) 3 – August - Goki
b) 13 – April - Priya
c) 3 – April - Pinky
d) 3 – May - Mani
e) None of these
Q.4) How many members attend conference between Ram and Goki?
a) Four
b) Five
c) Six
d) Seven
e) None of these
Q.5) Karthi attends conference on which among the following date?
a) 3rd May
b) 13th May
c) 13th August
d) 3rd August
e) 3 January

D.6-10) Read the following information carefully and answer the question given below.

Y, P, Z, K, V, R, T and M are eight friends sitting in square table in such a way four of them sits at corner of the table and remaining sits at each sides of the table. All of them like different topics in reasoning viz. Puzzle, Direction, Blood relation, MOT, SOT, Ranking, Coding decoding and Seating. All the above information is not necessarily in the same order. In the arrangement some of them facing center and some of them face outside the center.

P and R is immediate neighbour of the one who like Puzzle. M sits immediate left of P. M does not like Blood relation and Puzzle also does not sits at corner of the table. Z likes Ranking and sits opposite to K and both of them facing opposite direction to each other. The one who likes blood relation sits third to the right of V. P does not Like Blood relation. The one who likes SOT and the one who likes MOT sits adjacent to each other. The one who likes direction and the one who likes Coding decoding sits opposite to each other and face opposite direction to each other. V neither likes Direction nor Coding decoding. The one who likes direction faces outside the table. T sits immediate left of R. Y faces outside the table and his immediate neighbours are facing same direction as P. The one who likes SOT faces center. The one who likes coding does not faces outside the table.

Q.6) How many persons are there between Y and K?
a) Two
b) Three
c) Four
d) Five
e) Cannot be determined

Q.7) V likes which among the following topics?
a) SOT
b) Seating
c) Puzzle
d) MOT
e) None of these
Q.8) Who among the following likes Seating?
a) Y
b) T
c) R
d) V
e) Z
Q.9) P likes which among the following topic?
a) Direction
b) Blood relation
c) MOT
d) Coding decoding
e) None of these
Q.10) What is the position of the one who like SOT with respect to R?
a) Third to the left
b) Second to the left
c) Third to the right
d) Second to the right
e) None of these

D.11-15) In each of the following questions some statements are given and these statements are followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which one of the given conclusions does not follow logically from the given statements.

Q.11) **Statements:**

Some weak are strong.

All strong is health.

Some health is fruits.

No fruit is strong.

Conclusions:

I. No health is strong.

II. Some strong are health.

III. All weak are fruit.

IV. Some weak are not fruit.

a) Both II and IV does not follow

b) Only II does not follow

c) Both I and III does not follow

d) Only I does not follow

e) None of these

Q.12) **Statements:**

All School are office.

Some office is rural.

Some rural are urban.

No urban is metro.

Conclusions:

I. No school is urban.

II. Some rural are not metro.

III. All metro are rural.

IV. Some urban are school.

a) Both III and IV does not follow

b) Both I and III does not follow

c) Either (a) or (b)

d) Both I, III and IV does not follow

e) All follow

Q.13) **Statements:**

Some laptops are Television.

Some Televisions are mobile.

All mobiles are Apple.

All Apples are electronics.

Conclusions:

I. Some Apples are Television.

II. Some electronics are mobiles.

III. Some laptops are Apple.

IV. Some mobiles are Apple.

a) All follow

b) Only I does not follow

c) Only II does not follow

d) Only III does not follow

e) None of these

Q.14) **Statements:**

All televisions are radio.

Some radios are air conditioner.

Some air conditioners are washing machine.

All washing machines are water purifier.

Conclusions:

I. Some washing machines are radios.

II. Some water purifier is air conditioner.

III. Some radios are water purifier.

IV. No air conditioner is washing machine.

a) None follows

b) Only I does not follows

c) Both I, III and IV does not follow

d) Only II does not follow

e) None of these

Q.15) **Statements:**

No road is Bridge.

Some dams are park.

All parks are Bridge.

Some dams are road.

Conclusions:

I. Some parks are road.

II. Some dams are not park.

III. All dams are park is a possibility.

IV. No road is park.

a) Both I & III does not follow

b) Only II does not follow

c) Only I does not follow

d) Both III and IV does not follow

e) None of these

D.16-20) In these questions relationship between different elements is shown in the statements followed by conclusions.

A-B' means 'A is not smaller than B'

'A×B' means 'A is not greater than B'

'A#B' means 'A is neither smaller than nor equal to B'

'A÷B' means 'A is neither greater than nor equal to B'

'A+B' means 'A is neither smaller than nor greater than B'

Q.16) **Statement:** A-F#G÷K+L, G#B+D-C

Conclusions:

I. A#B

II. D÷K

III. C÷G

IV. F+L

a) Both I and IV does not follow

b) Only IV does not follow

c) Only III does not follow

d) Only II does not follow

e) None follows

Q.17) **Statement:** K÷L×M#N, L#B-C+D, M#F÷G

Conclusions:

I. K#F

II. D×B

III. N#G

IV. M#C

a) Only I does not follow

b) Only IV does not follow

c) Both II and III do not follow

d) Both I and III do not follow

e) None of these

Q.18) **Statement:** A÷B-C+D-E, B÷F, C-G, D÷H

Conclusions:

I. A-G

II. B-G

III. D÷F

IV. E÷F

a) Only I does not follow

b) Only II does not follow

c) Only III does not follow

d) Only IV does not follow

e) None of these

Q.19) **Statement:** A#B+C, D÷E×F, B×E

Conclusions:

I. B-F

II. D×C

III. E×A

IV. F#D

a) Both I and II do not follows

b) Both II and IV do not follows

c) Only II does not follows

d) Both II and III do not follow

e) None of these

Q.20) **Statement:** W-X÷Y+Z, Y×F÷D, A+F#C

Conclusions:

I. X÷D

II. Z×F

III. W×D

IV. D#C

a) Only I does not follows

b) Only II does not follow

c) Only III does not follow

d) Only IV does not follow

e) None follows

D.21-22) Read the following information carefully and answer the questions given below.

Point K is 6m west of O and 8m north of S, which is 4m east of V. L is 2m north of W. Point Y is 2m east of W. I is 4m south of T, which is 4m south of N.

Q.21) If L is 6m east of S, then what is the shortest distance between S and W?

a) $2\sqrt{5}$ m

b) $3\sqrt{7}$ m

c) $2\sqrt{10}$ m

d) $3\sqrt{6}$ m

e) $1\sqrt{9}$ m

Q.22) If L is 6m east of S and T is 8m south of V, then what is shortest distance between N and S, also find the direction of N with respect to W?

a) $4\sqrt{2}$m, South west

b) $6\sqrt{3}$, North east

c) $3\sqrt{6}$, North West

d) $2\sqrt{2}$, South west

e) None of these

D.23-25) Read the following information carefully and answer the questions given below.

E@F means E is wife of F
E#F means E is father of F
E$F means E is son of F

E%F means E is sister of F
Q.23) If A%K$V@T, then how V is related to A?
a) Father
b) Mother
c) Sister
d) Daughter
e) None of these
Q.24) If J @ K $ C @ Z # V then how V is related to J?
a) Brother
b) Sister
c) Cannot be determined
d) Cousin
e) Nephew
Q.25) Which of the following statement represents F is brother of M?
a) M@L#I%F
b) L#M@I$F
c) F@L$ M%I
d) F$I@L#M
e) None of these

D.26-30) Read the following information carefully and answer the questions given below.

P, Q, R, S, T, U and V are seven friends standing in a straight line in such a way four of them facing north and three of them facing south. Each of them was born on different years of same date and month. The years are 1961, 1972, 1982, 1985, 1994, 1995 and 2001. The present age for all the members is calculated based on the year 2017.

The persons who are stands in the end of the row face same direction and the difference between their ages is 12 years. T is immediate right of Q, who faces south was born on 2001. Only one person stands between Q and R, who was born on one of the odd number year but not 1985. Neither T nor R stands in any end of the row. Both V and U were born on consecutive year and stand adjacent to each other. T does not born on 1995. More than two peoples were sit to the right of R. Neither U nor S stands at extreme end of the row. The one who was born on 1972 stands third to the right of P. Immediate neighbour of Q faces as same direction as P.

Q.26) Who among the following is an immediate neighbour of T?
a) Q and S
b) R and V
c) P and Q
d) R and Q
e) None of these

Q.27) Which of the following statement is true?
a) T was born on even number year
b) Only one person stands between Q and U
c) S faces south direction
d) None is true
e) All are true
Q.28) Who among the following sits third to the right of S?
a) The one who was born on 1995
b) The one who was born on 1961
c) The one who was born on 1985
d) The one who was born on 2001
e) None of these
Q.29) Four of the following five are alike in certain way based on the arrangement, find the one which does not belongs to the group?
a) T
b) R
c) U
d) S
e) P
Q.30) U was born on which among the following year?
a) 1961
b) 2001
c) 1985
d) 1995
e) None of these

D.31-35) Study the following information to answer the given questions:

W 2 V % K 5 ^ 6 E Q A * P 0 C & 9 M Z 4 O @ X U 1 I F 3 # G 3 S ?

Q.31) In the above sequence how many such pairs are there in each of which Vowels are immediately preceded by a number and immediately followed by a symbol?
a) One
b) Two
c) Three
d) None of these
e) None
Q.32) If in the above sequence all the numbers are dropped, then which of the following element is 5th to the right of 9th from the right end?
a) F
b) 1
c) 3
d) G
e) K
Q.33) In the following four of the five are alike in certain way based on the position; find which of the following is does not belong to the group?
a) K ^ V

b) * 0 Q
c) @ U M
d) X 1 O
e) F # 1

Q.34) In the following series what should come in place of question mark?
2%5 6Q* 0&M ?
a) 1W3
b) UIF
c) @M&
d) F#S
e) 4@U

Q.35) If the first twenty elements from the left end are reversed, then which of the following will be twenty third from the right end?
a) *
b) 0
c) A
d) E
e) None of these

D.36-38) Read the following information carefully and answer the questions given below:

In certain code language,

'Feel free to learn' is coded as 'na pa ja ta'

'Learn for live' is coded as 'pa ra ma'

'Live for simple life' is coded as 'ma ha ra ka '

'Free to live' is coded as 'ta ra na'

Q.36) What is the code for the word 'live'?

a) ma

b) pa

c) ra

d) ta

e) na

Q.37) What is the code for the word 'Life'?

a) ma

b) ha

c) ka

d) Either (a) or (b)

e) cannot be determined

Q.38) What is the code word 'na' represents?

a) Free

b) Live

c) To

d) Either (a) or (c)

e) Either (a) or (b)

Q.39) How many such pair of letters are there in the word 'STRAWBERRY' each of which has as many letters between them in the word as in the English alphabet?

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

Q.40) How many meaningful words can be formed using 7^{th} , 2^{nd}, 10^{th} and 9^{th} letter of the word 'TELEVISION' (All the letters are compulsorily used only once to form a new word).

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

EXPLANATION

Q.1) c

Let present age of father, mother and son be x, y and z.

$\frac{x-4}{Z-4}=\frac{8}{1} => x-8z=-28----(1)$

$\frac{y}{z}=\frac{4}{1} => y=4z----(2)$

$y+z=4+x$

$y+z-x=4---(3)$

Solve the above three equation

x=36 years,

y=32 years

z=8 years

Father's age=36 years

Q.2) b

$\frac{24}{5x+3x}+\frac{24}{5x-3x}=15$

$\frac{24}{8x}+\frac{24}{2x}=15$

$(24 + 96) = 120x$
$120x = 120$
x=1
Speed of stream=3 km/hr
Q.3) c
$72 - 60 = \frac{\text{total length}}{150} \times 3600$
$\text{Total length} = \frac{12 \times 150}{3600} = 0.5 \text{ km}$
$\text{Length of the 1st train} = \frac{0.5}{5} \times 3 = 0.3\text{km} = 300 \text{ m}$
Q.4) d
$\text{Amount of milk in the mixture} = \frac{40}{5} \times 3 = 24 \text{ litres}$
$\text{Amount of water in the mixture} = \frac{40}{5} \times 2 = 16 \text{ litres}$
Let amount of m, mixture replaced be 5x.
$\frac{24 - 3x}{16 - 2x} = \frac{3}{2}$
$48 - 6x = 48 - 6x$
Therefore, Cannot be determined.
(alternate method)
Whatever the amount of mixture will take out the ratio will not changed.So therefore can't be determined.
Q.5) b
$\text{Required probability} = \frac{4C_1}{52C_1} = \frac{4}{52} = \frac{1}{13}$
Q.6) a
$2 + 2 \times 4 = 10$
$10 + 4 \times 6 = 34$
$34 + 6 \times 8 = 82$
$82 + 8 \times 10 = 162$
Q.7) b
$2 \times 1.5 = 3$
$3 \times 3.5 = 10.5$
$10.5 \times 5.5 = 57.75$
$57.75 \times 7.5 = 433.125$
Q.8) b
$3 \times 19 = 57$
$57 \times 19 = 1083$
$1083 \times 19 = 20577$
$20577 \times 19 = 390963$
Q.9) d
30+(3+5)=38
38+(5+7)=50
50+(7+11)=68

68+(11+13)=92
92+(13+17)=122
Q.10) b
$120-(2\times3-2)=116$
$116-(3\times4-3)=107$
$107-(4\times5-4)=91$
$91-(5\times6-5)=66$
$66-(6\times7-6)=30$
(alternate solution)
The differences are $2^2,3^2,4^2,5^2,6^2$

Q.11) b
Number of female in village A=10000
Number of literate in village C=3000
10000:3000 =10:3
Q.12) b
Total number of literate=61000
Total number of literate=44000
Difference=17000
Q.13) d
Total population=105000
Village Z=$\frac{20}{100}\times105000=21000$
Female population of village Z = 20000
Male=21000-20000=1000
Q.14) b
Total number of males in village A=10000
Male in village C=5000
Male in village D=25000
Total=40000
Q.15) b
Total number of male=60000
Total number of female=45000
Percentage more=$\frac{15000}{45000}\times100=33.33\%.$
Q.16) b
$?=45\%\text{ of }180+33\%\text{ of }200-12\%\text{ of }350+23\%\text{ of }400$
$?=81+66-42+92$
$?=197$
Q.17) b
$(122\times42\div12+72\div36\times25)\div3=?+24$
$?+24=\frac{122\times\frac{42}{12}+\frac{72}{36}\times25}{3}$
$?+24=\frac{427+50}{3}$
$?+24=159$

$?=159-24=135$

Q.18) d

$?=(12^2+44-8^2)\div\sqrt[3]{64}\times 6^2-11^2+28$

$?=\frac{144+44-64}{4}\times 36-121+28$

$?=1116-121+28$

?=1023

Q.19) c

$?=\sqrt{324}\times\sqrt{256}\div\sqrt[3]{216}\times\sqrt[3]{512}$

$?=\frac{18\times 16}{6}\times 8=384$

Q.20) d

$?=2\frac{2}{3}-3\frac{5}{6}+5\frac{1}{4}+4\frac{3}{8}$

$?=(2-3+5+4)+\left(\frac{2}{3}-\frac{5}{6}+\frac{1}{4}+\frac{3}{8}\right)$

$?=8+\frac{80-100+30+45}{120}$

$?=8+\frac{55}{120}=8+\frac{11}{24}=8\frac{11}{24}$

Q.21) a

(P+Q)'s three day work=$\left(\frac{1}{15}+\frac{1}{20}\right)=\frac{7}{60}\times 3=\frac{7}{20}$

(P+Q+R)'s three day work=$\left(\frac{1}{15}+\frac{1}{20}+\frac{1}{30}\right)=\frac{9}{60}\times 3=\frac{9}{20}$

Remaining work=$1-\frac{7}{20}-\frac{9}{20}=\frac{4}{20}$

C and D can complete 4/20th of the work in 4days

So C and D complete the work in 20 days

C takes 25 days to complete the work.

$\frac{1}{25}+\frac{1}{D}=\frac{1}{20}$

D takes 100 days to complete the work

Efficiency ratio for C:D=4:1

The wage for c is 9600.

Q.22) b

$\frac{2}{10}+\frac{x-2}{20}+\frac{x}{20}=1$

$\frac{12+3x-6+3x}{60}=1$

$6x=54$

$x=9hours$

Q.23) b

70000x=5 ×40000+500000

70000=200000+500000

X=$\frac{700000}{70000} = 10$

Q.24) b

$20000 \times 12 = 5000 \times 6 + 5000 \times 3 = 15000 \times 3$

$16:3:3$

$x = 700$

$A\ and\ B\ profit = 19 \times 700 = 13300$

Q.25) a

Let us consider x is total number of literates

$\frac{70}{100}x = 840$

X=1200

Y be the total number of male

$\frac{20}{100}y = 1200$

Y=6000

Z be the total number of population

$\frac{40}{100}z = 6000$

Z=15000

Q.26) a

The selling price of Bat 1 =1650

The selling price of Bat 2 =2400

Total =4050

Q.27) a

The selling price for Bat 3 =1150

Discount=350

Discount %=$\frac{350}{1500} \times 100 = 23.3\%$

Q.28) b

The S.P of bat 6=$\frac{120}{100} \times 1150 = 1380$

Discount =20%

M.P=$1380 \times \frac{100}{80} = 1725$

Q.29) a

The selling price for Bat 2=2400

The selling price for Bat 4=2750

Difference=350

Q.30) a

The S.P of bat 2=2400

The S.P of bat 3=1150

Sum= Rs.3550

Q.31) a

Let total work be 60 units

A=2units

C=1units
A+C=3units
Leakage= (1+2)1/4=-3/4
A+C-leak=$2+1-\frac{3}{4}=\frac{9}{4}$
A+C=$60\times\frac{1}{3}=20$ units filled
Remaining = 40 units
$Time=\frac{40}{\frac{9}{4}}=\frac{160}{9}hours=17\left(\frac{7}{9}\right)hours$
Q.32) a
A ,B ,C and D one hour work=$\left(\frac{1}{30}+\frac{1}{60}+\frac{1}{15}+\frac{1}{15}\right)=\frac{11}{60}part=>\frac{60}{11}hours$
P=2A
Efficiency ratio of P:A=2:1
Time taken ratio=1:2
So P=15days
Q=(1/2)×B
Time taken ratio of B and Q=2:1
Q=30 hours
P+Q's one hour work=$\left(\frac{1}{15}+\frac{1}{30}\right)=\frac{1}{10}\ part$
One hour work of A,B,C,D,and P and Q=$\frac{11}{60}-\frac{1}{10}=\frac{5}{60}=12\ hours$
Q.33) a

$$\frac{2}{60}+\frac{3}{15}+\frac{(x-2)}{15}+\frac{x}{30}=1$$

$$\frac{2+12+4x-8+2x}{60}=1$$

6x + 6=60
6x=60-6=54
X=54/6 =9 hrs.
Q.34) b
(A+D)'s one hour=$\left(\frac{1}{30}+\frac{1}{15}\right)=\frac{3}{30}=\frac{1}{10}$
For 2 hours = $\frac{1}{5}$
Remaining part of the tank=$1-\frac{1}{5}=\frac{4}{5}$
Remaining tank is filled by Q alone in $\frac{4}{5}\times 30=24\ hours$
Q.35) b

$$\frac{1}{30}+\frac{1}{15}-\frac{1}{20}-\frac{1}{60}=1$$

$$\frac{2+4-3-1}{60}=1$$

$$\frac{6-4}{60}=1$$

$$=\frac{1}{30}hours=30hours$$

Q.36) e

I. $x^2 + \sqrt{5}x - 150 = 0$

$x^2 + 6\sqrt{5}x - 5\sqrt{5}x - 150 = 0$

$x(x + 6\sqrt{5}) - 5\sqrt{5}(x + 6\sqrt{5}) = 0$

$x = 5\sqrt{5}, -6\sqrt{5}$

II. $y^2 + 3\sqrt{7}y + 14 = 0$

$y^2 + 2\sqrt{7}y + \sqrt{7}y + 14 = 0$

$y(y + 2\sqrt{7}) + \sqrt{7}(y + 2\sqrt{7}) = 0$

$y = -2\sqrt{7}, -\sqrt{7}$

Hence relationship cannot be determined.

Q.37) e

I.$3x^2$-x-10=0

-30

-6/3 5/3

x= 2, -1.666

II.$3x^2$-x-2=0

-6

-3/3 2/3

y= 1, -0.666

Relationship cannot be determined.

Q.38) b

I.x^2+13 x+40=0

40

8 5

X=-8, -5

II.y^2+7y+12=0

12

3 4

y=-3, -4

y>x

Q.39) e

I. x^2-30x +216=0

216

-12 -18

x=12, 18

II. y^2-29y+210=0

210

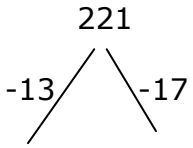
-14 -15

y=14, 15

Relationship cannot be determined

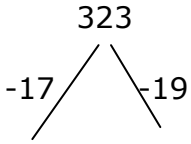
Q.40) d

I. $x^2-30x+221=0$



x=13, 17

II. $y^2-36y+323=0$



y=17, 19

$x \leq y$

D.1-5)

(31) Jan
- 3 — Ram
- 13 — Pritha

(30) April
- 3 — Pranav
- 13 — Ratha

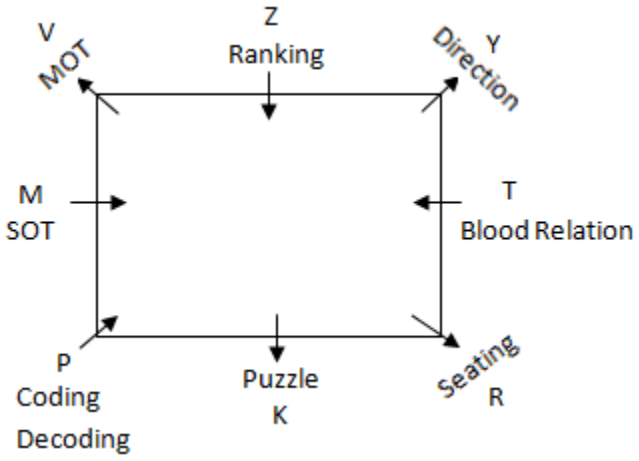
(31) May
- 3 — Mani
- 13 — Priya

(31) Aug
- 3 — Karthi
- 13 — Goki

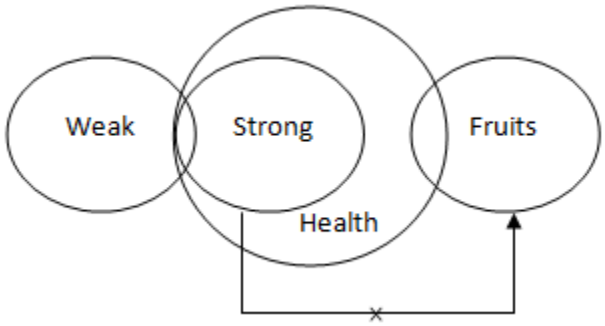
(31) Oct
- 3 — Madhu
- 13 — Pinky

1. (d)
2. (e)
3. (d)
4. (c)
5. (d)

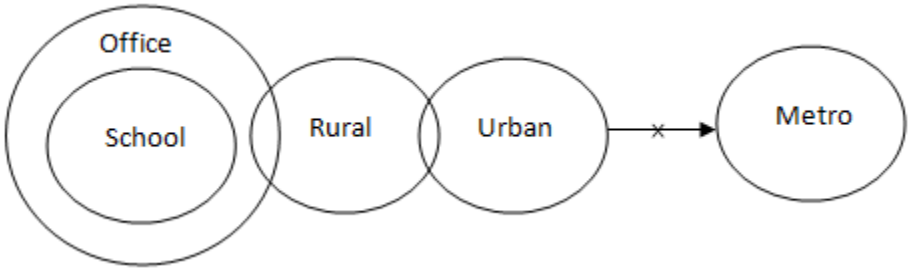
D.6-10)



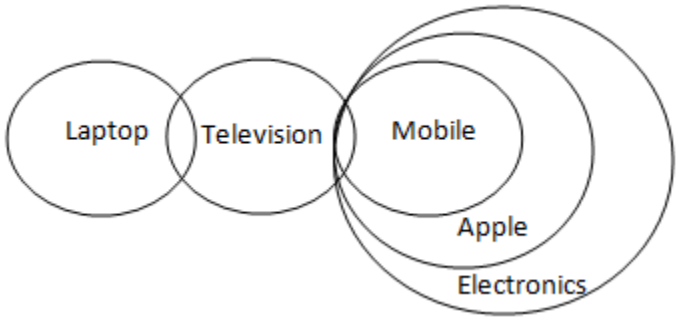
6. (e)
7. (d)
8. (c)
9. (d)
10. (c)
11. (c)



I. False
II. True
III. False
IV. True
12. (c)



I. False
II. True
III. False
IV. False
13. (d)



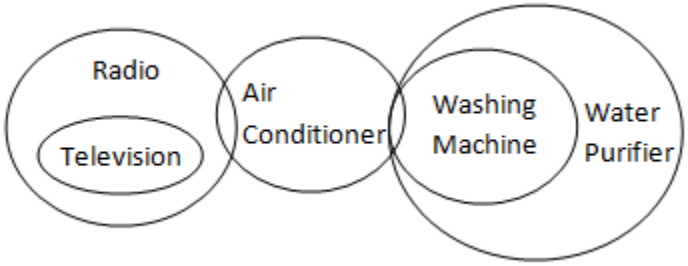
I. True

II. True

III. False

IV. True

14. (c)



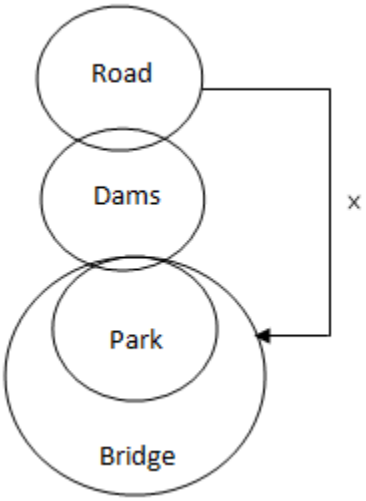
I. False

II. True

III. False

IV. False

15. (a)



I. False

II. True

III. False

IV. True

D.16-20)

- ⇒ A ≥ B

× ⇒ A ≤ B

⇒ A > B

÷ ⇒ A < B

+ ⇒ A = B

16. (b)

A ≥ F > G < K = L

V

B

II

D

VI

C

I. A > B – True

II. D < K – True

III. C < G – True

IV. F = L – False

17. (d)

K < L ≤ M > N

V V

B F

VI Λ

C G

II

D

I. K > F – False

II. D ≤ B – True

III. N > G – False

IV. M > C – True

18. (a)

A < B ≥ C = D ≥ E
Λ V| Λ
F G H

I. A ≥ G – False

II. B ≥ G – True

III. D < F – True

IV. E < F – True

19. (e)

A > B = C
Λ|
D < E ≤ F

I. B ≥ F - False

II. D ≤ C – False

III. E ≤ A – False

IV. F > D – True

20. (c)

W ≥ X < Y = Z
Λ|
A = F > C
Λ
D

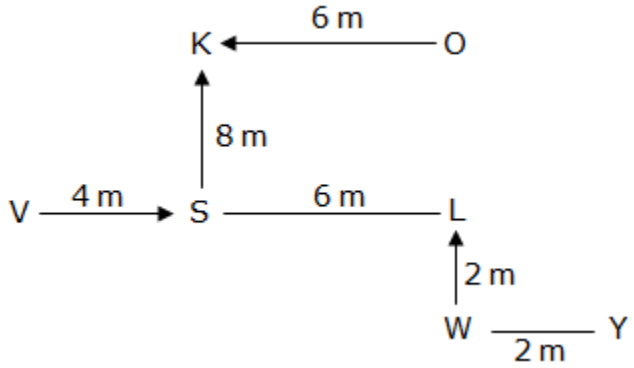
I. X < D – True

II. Z ≤ F – True

III. W ≤ D – False

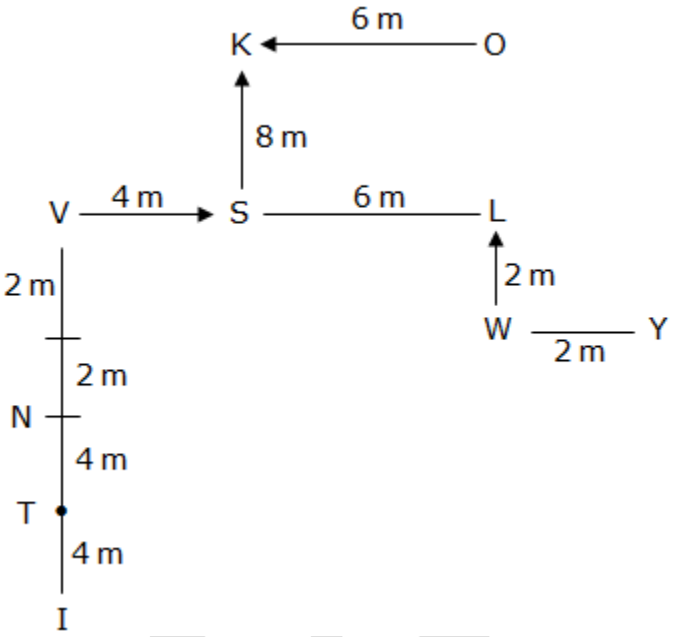
IV. D > C – True

21. (c)



SW = $\sqrt{36+4}$ = $\sqrt{40}$ = $2\sqrt{10}$ m

22. (a)



NS = $\sqrt{16+16}$

= $\sqrt{32}$

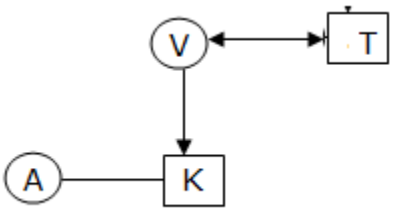
= $\sqrt{8 \times 4}$

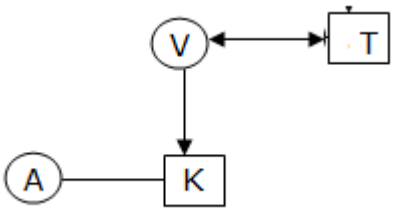
= $2\sqrt{8}$

= $2\sqrt{4 \times 2}$

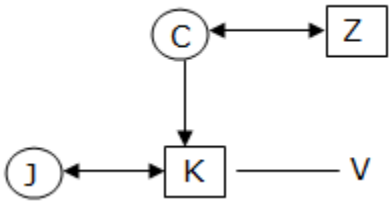
= $4\sqrt{2}$

23. (b)

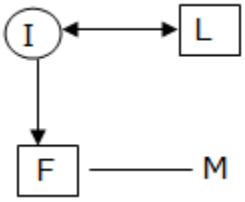




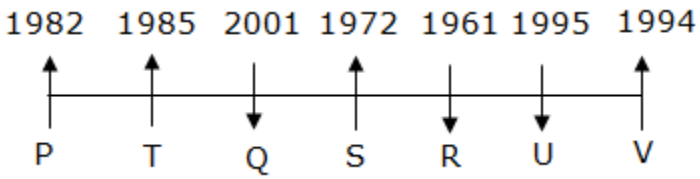
24. (c)



25. (d)



D.26-30)



26. (c)

27. (d)

28. (e)

29. (e)

30. (d)

D.31-35)

31. (a)

4 O @

32. (a)

9-5=4th from the right end

W V % K ^ E Q A * P C & M Z O @ X U I F # G S ?

33. (c)

Except (c) all are in same pattern

34. (e)

There is only one element between consecutive elements.

35. (e)

W 2 V % K 5 ^ 6 E Q A * P 0 C & 9 M Z 4 O @ X U 1 I F 3 # G 3 S ?

After reversing,

4 Z M 9 & C 0 P * A **Q** E 6 ^ 5 K % V 2 W O @ X U 1 I F 3 # G 3 S ?

D.36-38)

Free to → na ta

Learn → pa

For → ma

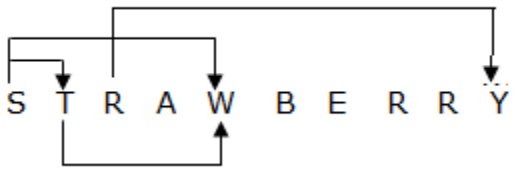
Live → ra

36. (c)

37. (e)

38. (d)

39. (d)



40. (b)

1	2	3	4	5	6	7	8	9	10
T	E	L	E	V	I	S	I	O	N

⇒ N O S E

⇒ S O N E

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