

MAH-CET-2023

Slot-1

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

Eight persons A, B, C, D, E, F, G and H are sitting in a straight line such that all of them are facing towards the north, but not necessarily in the same order.

G sits second from one of the ends. Only three persons sit between G and F, who sits second to the left of D. E sits third to the left of B and sits immediate left of H. The number of persons sitting between H and G is the same as the number of persons sitting between E and C. A doesn't sit at any of the extreme ends.

Q1) How many persons sit between C and H?

- A. As many persons sit between A and H
- B. Two
- C. As many persons sit between D and E
- D. More than three
- E. No one

Q2) Who among the following person sits second to the left of A?

- A. The one who sits immediate left of E
- B. D
- C. The one who sits third to the left of H
- D. B
- E. The one who sits immediate left of G

Q3) If all the persons are made to sit in the alphabetical order from the right end, then how many persons remain unchanged in their position?

- A. One
- B. Two
- C. Three
- D. More than three
- E. No one

Q4) What is the position of F with respect to B?

- A. Immediate left
- B. Second to the right
- C. Immediate right
- D. Fourth to the right
- E. Second to the left

Q5) Four of the following five are alike in a certain way as per the given arrangement and hence form a group. Find the one who doesn't belong to that group.

- A. CE
- B. GH
- C. AF
- D. HF
- E. EB

Q6) Statements:

No toffee is coffee.
No sweet is toffee.

Conclusions:

- I. No coffee is sweet.
- II. All sweets are coffee.
- A. if only conclusion I follows.
- B. if only conclusion II follows.
- C. if either conclusion I or conclusion II follows.
- D. if neither conclusion I nor conclusion II follows.
- E. if both conclusion I and conclusion II follow.

Q7) Statements:

All windows are doors.
All entrances are windows.
No gate is a door.

Conclusions:

- I. At least some windows are gates.
- II. No gate is an entrance.
- A. if only conclusion I follows.
- B. if only conclusion II follows.
- C. if either conclusion I or conclusion II follows.
- D. if neither conclusion I nor conclusion II follows.
- E. if both conclusion I and conclusion II follow.

Q8) Statements:

All bottles are glasses.
No cup is a glass.

Conclusions:

- I. No bottle is a cup.
- II. At least some glasses are bottles.

- A. if only conclusion I follows.
- B. if only conclusion II follows.
- C. if either conclusion I or conclusion II follows.
- D. if neither conclusion I nor conclusion II follows.
- E. if both conclusion I and conclusion II follow.

Q9) Statements :

All frocks are trousers.
 No pants are frocks.
 Some jackets are pants.

Conclusions :

- I. At least some jackets are frocks.
- II. No jacket is a frock.
- A. If only conclusion I follows.
- B. If only conclusion II follows.
- C. If neither conclusion I nor II follows.
- D. If both conclusion I and II follows.
- E. If either conclusion I or II follows.

Q10) Statements :

All bottles are jugs.
 All pans are jugs.
 Some jugs are not mugs.

Conclusions :

- I. Some bottles are not pans.
- II. Some mugs may not be jugs.
- A. If only conclusion I follow
- B. If only conclusion II follow
- C. If neither conclusion I nor conclusion II follows
- D. If both the conclusions follow
- E. If either conclusion I or conclusion II follows.

Q11) Dog: Rabies:: Mosquito : ?

- A. Malaria
- B. Sting
- C. Death
- D. Plague

A. History

B. Leader

C. Story

D. Nationalism

Q12) Man: Biography:: Nation : ?

Q13) Doctor: Diagnose:: Judge : ?

A. Court B. Punishment C. Lawyer D. Judgement E. None of these

Q14) Flow : River :: Stagnant : ?

A. Rain

B. Stream

C. Pool

D. Canal

Q15) Paw : Cat :: Hoof : ?

A. Lamb

B. Elephant

C. Lion

D. Horse

Directions(16-20) : Study the following information carefully and answer the questions given beside.

In a certain coded language:

'X + Y' means 'Y is the brother of X'.

'X ? Y' means 'X is the daughter of Y'.

'X ! Y' means 'Y is the sister of X'.

'X / Y' means 'X is the son of Y'.

'X\$Y' means 'X is the father of Y'.

'X & Y' means 'X is the mother of Y'

Q16) Which of the following can be derived from the given expression –
“B\$A!R?E&Y+D”?

A.A?B

B.Y!R

C.A/E

D.D+R

E.All of these

Q17) How is J related to M in the following expression – “M/T\$W?Q!J”?

A.Niece

B.Paternal Aunt

C.Maternal Aunt

- D.Mother
- E.Can't be determined

Q18) Which of the following conclusions cannot be derived from the given expression – “G?K/M\$X&S?R”?

- A.The number of males and females in the family is equal.
- B.R is the paternal uncle of G.
- C.R is the son-in-law of M.
- D.K is the paternal uncle of S.
- E.None of these

Q19) How is M related to V in the expression – “V / F ! D + H \$ O ? M”?

- A.Paternal Aunt
- B.Maternal Aunt
- C.Nephew
- D.Niece
- E.Can't be determined

Q20) How is L related to C in the expression – “K ? D ! C & G + V / L” ?

- A.Husband
- B.Brother
- C.Nephew
- D.Wife
- E.None of these

Q21) If A + B means A is the mother of B; A - B means A is the brother B; A % B means A is the father of B and A x B means A is the sister of B, which of the following shows that P is the maternal uncle of Q?

- A. Q - N + M x P
- B. P + S x N - Q
- C. P - M + N x Q
- D. Q - S % P
- E. none of the above

Q22) Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?

- A. Brother
- B. Nephew
- C. Uncle
- D. Son-in-law

E. Father

Q23) If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?

- A. Brother
- B. Sister
- C. Nephew
- D. Cannot be determined

Q24) If $A + B$ means A is the brother of B; $A - B$ means A is the sister of B and $A \times B$ means A is the father of B. Which of the following means that C is the son of M?

- A. $M - N \times C + F$
- B. $F - C + N \times M$
- C. $N + M - F \times C$
- D. $M \times N - C + F$

Q25) It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?

- A. Sunday
- B. Saturday
- C. Friday
- D. Wednesday

Q26) How many times do the hand of a clock coincide in day?

- A. 24
- B. 26
- C. 22
- D. 20

Q27) If TOUR is written as 1234, CLEAR is written as 56784 and SPARE is written as 90847, find the code for CARE

- A. 1247
- B. 4847
- C. 5247
- D. 5847

Q28) CALANDER is coded in a code as CLANAEDR. Find the code for CIRCULAR under the same rule.

- A. LACANDER
- B. CRIUCALR
- C. CLANADER

D. None of these

Q29) If LIGHT is coded as GILTH, find the code for RAINY.

A. IARYN

B. ARINY

C. NAIRY

D. RINAY

Q30) In a code sign DRLAL is coded as 62014314. How CAMEL is coded ?

A. 5315714

B. 35729310

C. 5313613

D. None of thes

Q31) In a code language 35796 is written as 44887. Find the code for 46823.

A. 55914

B. 57194

C. 55934

D. 55745

Q32) If the following five words are arranged in alphabetical order, then which word will come in the middle?

A: Electric

B: Elector

C: Electrode

D: Elect

Q33) Arrange the given words in the alphabetical order and choose the one that comes at second place.

A: Bathing

B: Banking

C: Backing

D: Banishing

Q34): If the following five words are arranged in alphabetical order, then which word will come in the middle?

A: Cruise

B: Crupper

- C: Crusade
- D: Crumb

Q35) If the following five words are arranged in alphabetical order, then which word will come in the middle?

- A: Manipulate
- B: Minimalist
- C: Minority
- D: Ministerial

Q36): If the following five words are arranged in alphabetical order, then which word will come in the middle?

- A: Sentinel
- B: Sentimentally
- C: Sententious
- D: Sentence

Direction (37-41) Eight people J, K, L, M, N, O, P and Q are sitting around a circular table, facing the centre, not necessarily in the same order. O is sitting third to the right of M. There is only one person sitting between M and J. There are only three people between J and K. P is an immediate neighbour of J. There are only three people between P and L. N is second to the right of P.

Q37) Which of the following is true regarding the given arrangement?

- A. M is an immediate neighbour of K.
- B. N is an immediate neighbour of J.
- C. P is second to the left of O.
- D. There are four people between N and O.
- E. None is true

Q38) Who is sitting second to the left of the one who is sitting second to the left of Q?

- A. M
- B. K
- C. N
- D. L
- E. J

Q39) Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which does not belong to the group?

- A. PQ
- B. KL
- C. MN
- D. QO
- E. KO

Q40) What is N's position with respect to K?

- A. 2nd to the left
- B. 2nd to the right
- C. 3rd to the left
- D. 3rd to the right
- E. 4th to the left

Q41) How many people are sitting between K and P when counted from the right side of K?

- A. One
- B. Two
- C. Three
- D. None
- E. More than three

Direction (42-46) : Nine persons – Chaya, Dimple, Beena, Ajit, Jaya, Fatima, Gagan, Hemant and Kaushal – are sitting in a straight line facing north, but not necessarily in the same order.

Beena is fourth to the left of Gagan; Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit. Dimple is not an immediate neighbour of either Kaushal or Beena. There are only three persons between Jaya and Ajit. Gagan is second to the right of Chaya.

Q42) In which of the following combinations is the third person sitting between the first and the second person?

- A. Jaya, Kaushal, Beena
- B. Chaya, Hemant, Beena
- C. Ajit, Gagan, Chaya
- D. Fatima, Gagan, Dimple
- E. None of these

Q43) Who among the following sits third to the right of Hemant?

- A. Gagan
- B. Dimple
- C. Jaya
- D. Beena
- E. None of these

Q44) Who among the following sits third to the left of Jaya?

- A. Kaushal
- B. Gagan
- C. Dimple
- D. Beena
- E. None of these

Q45) Who among the following sit at the extreme ends of the line?

- A. Ajit, Dimple
- B. Hemant, Jaya
- C. Kaushal, Beena
- D. Chaya, Kaushal
- E. None of these

Q46) If Kaushal and Hemant exchange their places, then who among the following sits on the immediate right of Kaushal?

- A. Chaya
- B. Jaya
- C. Beena
- D. Ajit
- E. None of these

Q47) 127, 131, 139, ?, 151, 157, 163, 167,

- (A) 149
- (B) 147
- (C) 141
- (D) 143

Q48) 2, 12, 36, 80, 150, ?

- (A) 250
- (B) 252
- (C) 200
- (D) 270

Q49) 6, 14, 36, 98, ?

- (A) 276
- (B) 275
- (C) 220
- (D) 274

Q50) 5, 16, 49, 104, ?

- (A) 171
- (B) 191
- (C) 181
- (D) 161

Q51) 8, 7, 11, 12, 14, 17, 17, 22, ?

- (A) 27
- (B) 20
- (C) 24
- (D) 22

Q52) 2, 6, 12, 20, 30, 42, 56, ?

- (A) 61
- (B) 64
- (C) 70
- (D) 72

Q53) 4, -8, 16, -32, 64, ?

- (A) 128
- (B) -128
- (C) 192
- (D) -192

Q54) 7, 26, 63, 124, 215, 342, ?

- (A) 481
- (B) 511
- (C) 391
- (D) 421

Q55) 1, 6, 13, 22, 33, ?

- (A) 44
- (B) 45
- (C) 46

(D) 47

Q56) 24, 60, 120, 210, ?

(A) 300

(B) 420

(C) 336

(D) 400

Q57) SCD, TEF, UGH, _____, WKL

A. CMN

B. UJI

C. VIJ

D. IJT

Q58) FAG, GAF, HAI, IAH, _____

A. JAK

B. HAL

C. HAK

D. JAI

Direction (59-60) The distance between N and P is 50 m and that between Q and R is 40 m. Q is to the west of R, which is to the east of N at a distance of 70 m. P is to the west or northwest or north of Q.

Q59) If Q is to the south of P, what is the distance between P and Q?

A. 40 m

B. 35 m

C. 80 m

D. 20 m

E. None of these

Q60) In which direction is R with respect to P?

A. North

B. East

C. Southeast

D. Either 2 or 3

E. None of these

Q61) P is 9 m to the south of K. K is 5 m to the east of H. H is 4 m to the north of B. L is 3 m west of B. D is 7 m south of L. G is 8 m east of D.

If point Z is 5 m to the west of point P, then what is the distance between B and Z?

- A. 8 m
- B. 9 m
- C. 5 m
- D. 2 m
- E. 6 m

Q62) P is 9 m to the south of K. K is 5 m to the east of H. H is 4 m to the north of B. L is 3 m west of B. D is 7 m south of L. G is 8 m east of D. **[Set 2 Q.2]**

How far and in which direction is point K from Point G?

- A. 11 m to the south
- B. 7 m to the north
- C. 11 m to the north
- D. 7 m to the south
- E. 11 m to the west

Q63) The door of B's house faces east. From the back side of his house, B walks straight 50 m. Again he walks 25m after turning to his left, then he turns to his right and walks 50m. Finally he turns towards north and walks 25m and stops.

What is the distance between the starting and the end point?

- A. 80 m
- B. 100 m
- C. 150 m
- D. 120 m
- E. None of these

Q64)) One day Ravi left home and cycled 10 km south wards, turned right and cycled 5 km and turned right and cycled 10 km and turned left and cycled 10 km. how many kilometers will he have to cycle to reach his home straight ?

A. 10 km B. 15 km C. 20 km D. 25 km E. None of these

Q65) Kunal walks 10 km towards North. From there he walks 6 km towards South. Then, he walks 3 km towards East. How far and in which direction is he with reference to his starting point?

A. 5 km West B. 7 km West C. 7 km East D. 5 km North-east E. None of these

Q66) Which of the following diagrams indicates the best relation between Travelers, Train and Bus ?



- B. 
- C. 
- D. 

Q67) Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus ?

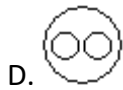
- A. 
- B. 
- C. 
- D. 

Q68) Which of the following diagrams indicates the best relation between Women, Mothers and Engineers ?

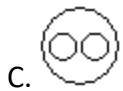
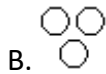
- A. 
- B. 
- C. 
- D. 

Q69) Which of the following diagrams indicates the best relation between Factory, Product and Machinery ?

- A. 
- B. 
- C. 



Q70) Which of the following diagrams indicates the best relation between Author, Lawyer and Singer ?



- Q71)** A. Banana
B. Mango
C. Cashew
D. Guava

- Q72)** A. Car
B. Bicycle
C. Motorcycle
D. Jeep

- Q73)** A. Listen
B. Swim
C. Walk
D. Climb

- Q74)** A. Screw
B. Hammer
C. Needle
D. Pin

- Q75)** A. Gold
B. Silver
C. Carbon
D. Diamond

Direction (76-80) Read following passage carefully and answer the given questions.
Ever since the dawn of civilization, persons in power have tried to control education .

During the Christian Era, the ecclesiastics controlled the institution of education and diffused among the people the gospel of the Bible and religious teachings. They taught the poor people to be meek and to earn their bread with the sweat of their brow. while the priests and the landlords. lived in luxury. During the Renaissance, education passed from the clutches of the priests into the hands of the prince. It became more secular. Thus, under the control of the monarch, education began to preach the infallibility of the monarch which meant that the king could do no wrong. With the advent of Industrial Revolution, education no longer remained the privilege of the baron class, but was thrown open to the new rich merchant class. The philosophy in vogue during this period was that of 'Laissez Faire --- restricting the function of the state to merely keeping law and order, while in actual practice the law of the jungle prevailed in the form of free competition and the survival of the fittest.

Q76) During the Christian Era, the institution of the education was controlled by

- A. the monarchs
- B. the secular leaders of the society
- C. the common people
- D. the church and the priests

Q77) During the Renaissance, education was controlled by

- A. the common people
- B. the secular leaders of the society
- C. the princes
- D. the church and the priests

Q78) Under the control of monarch, education began to preach

- A. that kings were gods
- B. that the king was infallible
- C. that the king, like common man could also do wrong
- D. none of the above

Q79) With the advent of Industrial Revolution, education

- A. was the sole privilege of the baron class
- B. was thrown open to the new rich merchant class
- C. was free for the poor
- D. none of the above

Q80) The philosophy of 'Laissez Faire' stands for

- A. joint control of the means of production by the state and private enterprise
- B. individual freedom in the economic field
- C. state control of the means of production
- D. restricting the function of the state of merely keeping law and order

Direction (81-86) Read the following passages carefully and choose the best answer to each of the questions out of the several alternatives:

The group of tired dusty riders arrived at a fork in the road. Their leader immediately sprang to the ground after first throwing his rein to one of the others, and began to examine minutely the sandy track,

The problem was simple; if the fleeing enemy had taken the left turning, there remained little hope of catching them, since he knew that it led back to a small settlement of native huts where they should be sheltered by the friendly inhabitants. If, on the other hand, they had branched to the right, they would have before them the open desert, not a flat expanse of sand such as they had just crossed, but a country broken by a series of ridges, behind any of which a whole army could hide.

He turned to his companions to see if he could read any solution in their faces. But they were too occupied by their aching limbs and several were taking a quick drink from the flasks which hung at their belts. He realized every minute's delay lessened their chances of overtaking their adversaries. So, with a rapid glance at the sun, he jumped once more into the saddle and with his whip indicated the way they were to go.

Q81) Why did the leader look at the sun?

- A) To estimate what daylight still remained
- B) He sent a silent prayer to the sun - god to show the way
- C) To estimate chances of their overtaking their adversaries
- D) To estimate their position in the desert

Q82) What, if any, was the difference in the nature of the terrain they had already traversed and the one lying ahead?

- A) The country - side already traversed was ups and downs
- B) There was hardly any difference as it was a vast expanse of unending desert
- C) The terrain hitherto was dusty and tiring, the road ahead led back to a habitation
- D) What they had crossed was a flat expanse of sand and what they lay ahead to the right was a series of ridges of sand

Q83) What difficulties did they expect if they took the branch to the right?

- A) The open desert ahead promised no oasis to shelter them at night
- B) They were absolutely in the dark about what they lay ahead of them
- C) Ahead lay a country full of ridges of sand providing cover to the fleeing enemy
- D) They would have before them the open desert obstructing pursuit

Q84) What was the aim of the group of riders?

- A) They were fleeing from a pursuing enemy
- B) They had a small settlement of native huts as their goal
- C) They were exploring a desert
- D) They were pursuing a fleeing enemy

Q85) What difficulties did the pursuers expect if they took to the left hand track?

- A) It led through a trackless expanse of unending desert
- B) It led to a settlement where the residents would surely shelter the enemy they were after
- C) The settlement it led to was hostile to them
- D) The leader anticipated a possible revolt among his followers, foot - sore, dust covered and tired as they already were

Q86) Where and why did they stop?

- A) At a fork in the road to examine the sandy track for foot - prints of the fleeing enemy
- B) At the huts of some friendly inhabitants in order to rest their weary limbs
- C) At a three - way crossing where the leader wanted to study the position of the sun in the sky
- D) At a fork in the road in order to decide whether they should turn left or right

Q87) You must ensure the correctness of the information before _____ to conclusion.

- A) drawing
- B) enabling
- C) leaning
- D) jumping
- E) examining

Q88) The flood water _____ agricultural fields and entered houses in several parts of the state.

- A) Bargained
- B) Restricts
- C) Inundated
- D) Groove
- E) Clustered

Q89) Select the most appropriate synonym of the given word.

Fleeting

- A) Transient
- B) Transparent
- C) Tranquil
- D) Tepid

Q90) Select the most appropriate synonym of the given word.

Guile

- A) Honest
- B) Hot
- C) Chicanery
- D) Charming

Q91) Select the most appropriate antonym of the given word.

Unholy

- A) Pity
- B) Impious
- C) Pave
- D) Venerate

Q92) Select the most appropriate antonym of the given word.

Lax

- A) Firm
- B) Careless
- C) Loot
- D) Fiction...

Q93) Select the wrongly spelt word.

- A) dangerous
- B) skillful
- C) beautiful
- D) vaccum

Q94) . Select the wrongly spelt word.

- A) knoty
- B) haughty
- C) vagabond
- D) yolk

Direction (95-97) Find synonyms of following words

Q95) Scorn

- (A) Praise
- (B) Bias
- (C) Despise
- (D) Concise

Q96) Camouflage

- (A) Disguise
- (B) Cover
- (C) Demonstrate
- (D) Fabric

Q97) Yearn

- (A) Despise
- (B) Crave

(C) Confront

(D) Deny

Direction (98-99) Find the antonyms of following words

Q98) Propensity

(A) Relentless

(B) Stagnation

(C) Forecast

(D) Disinclination

Q99) Encomium

(A) Hyper-criticism

(B) Diffidence

(C) Unethical

(D) Meager

Direction (100-105) Select the most appropriate meaning of the given phrase/idiom.

Q100) Dance to someone's tune

(A) Argue with others on petty matters

(B) Delay in making a decision

(C) Do what others want you to do

(D) Be engaged in an energetic activity

Q101) Leave no stone unturned

(A) Try everything possible

(B) Leave the path halfway

(C) Not make enough efforts

(D) Turn everything upside down

Q102) Throw in the towel

(A) Think of a solution

(B) Face the situation

(C) Drop something

(D) Admit defeat

Q103) To air dirty linen in public

(A) To hang out clothes in the open

(B) To stand up and fight

(C) To discuss private affairs in public

(D) To continue to complain

Q104) Tit for tat

(A) To reward people for the good done

(B) To do harm as done to you

(C) To make someone angry

(D) To take advantage of someone

Q105) Bite your tongue

- (A) Be impossible to be understood
- (B) Get bruises in the mouth
- (C) Talk for a long time
- (D) Stop yourself from saying something

Direction (106-110) Out of the four alternatives, choose the one which can be substituted for the given word/sentences.

Q106) Medicine given to counteract poison

- (A) Antiseptic
- (B) Antidote
- (C) Antibiotic
- (D) Anti fungal

Q107) Person who files a suit

- (A) Accuse
- (B) Plaintiff
- (C) Suitor
- (D) Charger

Q108) A person who abstains completely from alcoholic drinks

- (A) Incriminatory
- (B) Subjunctive
- (C) Derelict
- (D) Teetotaller

Q109) The practice of having many wives

- (A) Polyandry
- (B) Polygamy
- (C) Calligraphy
- (D) Bigamy

Q110) One who is not likely to be easily pleased

- (A) Fastidious
- (B) Fatalist
- (C) Communist
- (D) Infallible

Direction (111-120) : In the following questions, choose the part grammatically incorrect from the sentence.

Q111) Judge in him prevailed upon the father and he sentenced his son to death.

- (A) Judge in him
- (B) Prevailed upon the father
- (C) And he sentenced his son to death
- (D) No error

Q112) Nine-tenths of the pillar have rotted away.

- (A) Nine-tenths
- (B) Of the pillar
- (C) Have rotted away
- (D) No error

Q113) The conversation we are having is completely out of the main topic.

- (A) The conversation
- (B) We are having is completely
- (C) Out of the main topic
- (D) No error

Q114) Our efforts are aimed to bring about a reconciliation.

- (A) Our efforts are
- (B) Aimed to bring about
- (C) A reconciliation
- (D) No error

Q115) Ghana, Nigeria and Gambia each have parts to play in the development of Africa.

- (A) Ghana, Nigeria and Gambia
- (B) Each have parts to play
- (C) In the development of Africa
- (D) No error

Q116) He is a university professor but of his three sons neither has any merit.

- (A) He is a university professor
- (B) But of his three sons
- (C) Neither has any merit
- (D) No error

Q117) After knowing truth, they took the right decision in the matter.

- (A) After knowing truth
- (B) They took the right decision
- (C) In the matter
- (D) No error

Q118) It is time you decide on your next course of action.

- (A) It is time you
- (B) Decide on your next
- (C) Course of action
- (D) No error

Q119) He who has suffered most for the cause let him speak.

- (A) He who has suffered most
- (B) For the cause
- (C) Let him speak
- (D) No error

Q120) A cup of coffee is an excellent complement to smoked salmon.

- (A) A cup of coffee
- (B) Is an excellent complement
- (C) To smoked salmon
- (D) No error

Direction (121-125) : In the following questions, out of the four alternatives, one word is correctly spelt. Find the correctly spelt word.

Q121) (A) Persecution

- (B) Pursecution
- (C) Presecution
- (D) Persecusion

Q122) (A) Lisense

- (B) License
- (C) Lycense
- (D) Lisence

Q123) (A) Irelevant

- (B) Irrelevant
- (C) Irrelevat
- (D) Irelevant

Q124) (A) Allineate

- (B) Alienate
- (C) Alienatte
- (D) Allienate

Q125) (A) Concede

- (B) Conceed
- (C) Consede
- (D) Conseed

Q126) A builder appoints three construction workers Akash, Sunil and Rakesh on one of his sites. They take 20, 30 and 60 days respectively to do a piece of work. How many days will it take Akash to complete the entire work if he is assisted by Sunil and Rakesh every third day?

- A. 10 days
- B. 15 days
- C. 25 days
- D. 30 days
- E. 45 days

Q127) To complete a piece of work, Samir takes 6 days and Tanvir takes 8 days alone respectively. Samir and Tanvir took Rs.2400 to do this work. When Amir joined them, the work was done in 3 days. What amount was paid to Amir?

- A. Rs. 300
- B. Rs. 400

- C. Rs. 800
- D. Rs. 500
- E. Rs. 100

Q128) Dev completed the school project in 20 days. How many days will Arun take to complete the same work if he is 25% more efficient than Dev?

- A. 10 days
- B. 12 days
- C. 16 days
- D. 15 days
- E. 5 days

Q129) Time taken by A to finish a piece of work is twice the time taken B and thrice the time taken by C. If all three of them work together, it takes them 2 days to complete the entire work. How much work was done by B alone?

- A. 2 days
- B. 6 days
- C. 3 days
- D. 5 days
- E. Cannot be determined

Q130) Sonal and Preeti started working on a project and they can complete the project in 30 days. Sonal worked for 16 days and Preeti completed the remaining work in 44 days. How many days would Preeti have taken to complete the entire project all by herself?

- A. 20 days
- B. 25 days
- C. 55 days
- D. 46 days
- E. 60 days

Q131) Ram and Shyam are standing at two ends of a room with a width of 30 m. They start walking towards each other along the width of the room with a Speed of 2 m/s and 1 m/s, respectively. Find the total distance travelled by Ram when he meets Shyam for the third time.

- A. 110 m
- B. 112 m
- C. 120 m
- D. 100 m

Q132) A man decided to cover a distance of 6 km in 84 minutes. He decided to cover two thirds of the distance at 4 km / hr and the remaining at some different speed. Find the speed after the two third distance has been covered.

- A. 5 kmph
- B. 7 kmph

C. 9 kmph

D. 3 kmph

Q133) While going to office, Ramesh travels at a speed of 30 kmph and on his way back, he travels at a speed of 45 kmph. What is his average speed of the whole journey?

A. 45 kmph

B. 36 kmph

C. 32 kmph

D. 42 kmph

Q134) In a library, the ratio of number of story books to that of non-story books was 4:3 and total number of story books was 1248. When some more story books were bought, the ratio became 5:3. Find the number of story books bought.

A. 312

B. 321

C. 936

D. 1560

Q135) Rs. 8400 is divided among A, B, C and D in such a way that the shares of A and B, B and C, and C and D are in the ratios of 2:3, 4:5 and 6:7 respectively. The share of A is

A. Rs. 1280

B. Rs. 8400

C. Rs. 8210

D. Rs. 1320

Q136) The ratio of the present age of father to that of son is 7:2. After 10 years their ages will be in the ratio of 9:4. The present ages of the father is

A. 35 years

B. 40 years

C. 30 years

D. 25 years

Q137) Price of each article of type P, Q, and R is Rs. 300, Rs. 180 and Rs. 120 respectively. Suresh buys articles of each type in the ratio 3:2:3 in Rs. 6480. How many articles of type Q did he purchase?

A. 8

B. 14

C. 20

D. None of the above

Q138) Ajay and Raj together have Rs. 1050. On taking Rs. 150 from Ajay, Ajay will have same amount as what Raj had earlier. Find the ratio of amounts with Ajay and Raj initially.

- A. 3:4
- B. 7:1
- C. 1:3
- D. 4:3

Q139)

Age of Umesh will be 4 times the age of Reena in 6 years from today. If ages of Umesh and Mahesh are 7 times and 6 times the age of Reena respectively, what is present age of Umesh?

- A. 64 years
- B. 30 years
- C. 48 years
- D. 42 years

Q140) Rohan's age is five times Ajay's and seven-eighteenth of Meena's age. The sum of the ages of all three of them is 132 years. How much younger is Ajay to Meena?

- A. 56 years
- B. 83 years
- C. 27 years
- D. Cannot be determined

Q141) The average age of 10 students and their teacher is 15 years. The average age of the first seven students is 15 yr and that of the last three is 11 yr. What is the teacher's age?

- A. 33 years
- B. 30 years
- C. 27 years
- D. 24 years

Q142) Ram and Shyam's average age is 65 years. The average age of Ram, Shyam and

John is 53 years. What is the age of John?

- A. 29 years
- B. 31 years
- C. 59 years
- D. 45 years

Q143) The present ages of Aman and Nina are 59 and 37 years, respectively. What was the ratio of the ages of Nina and Aman 13 years ago?

- A. 3:2
- B. 46:25
- C. 12:23
- D. 8:3

Q144) If the sum two numbers is 31 and their product is 240, then find the absolute difference between the numbers.

- A. 1
- B. 3
- C. 4
- D. 5

Q145) The sum of squares of three numbers is 138 and the sum of their products taken two at a time is 131. Find their sum.

- A. 35
- B. 42
- C. 20
- D. 18

Q146) The average of 3 consecutive even numbers is 18, find the largest of these numbers.

- A. 15
- B. 16
- C. 20
- D. 26

Q147) . 5 times a positive number is less than its square by 24. What is the integer?

- A. 5
- B. 8

C. 7.5

D. 9

Q148) The sum of numerator and denominator of a fraction is 30. If 2 is added to numerator and 2 is subtracted from denominator, then it becomes $\frac{2}{3}$. Find the fraction.

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{2}{3}$

D. $\frac{1}{4}$

Q149) . The difference between two numbers is 1550. If 8 % of one number is 10 % of the other number, then find the two numbers

A. 4973, 6523

B. 5450, 7000

C. 6200, 7750

D. 6500, 4950

Q150) Two numbers P and Q are such that, the sum of 2 % of P and Sum of 2 % of Q is two-third of the sum of 2 % of P and 6 % of Q. Find the ratio of P and Q.

A. 2 : 5

B. 3 : 1

C. 1 : 4

D. 5 : 1

Q151) . 50 % of a number is 18 less than two-third of that number. Find the number.

A. 123

B. 119

C. 115

D. 108

Q152) Suresh borrows Rs. 10,000 for 2 years at 4 % p.a. simple interest. He lends it to Ramesh at 6 % p.a. for 2 years. Find his gain in this transaction per year.

A. Rs. 150

B. Rs. 200

C. Rs. 400

D. Rs. 450

Q153) At what rate percent per annum will sum of money double in 20 years?

A. 1.2 %

B. 2 %

C. 4 %

D. 5 %

Q154) The population of a city increases 5 % annually but decreases by $\frac{1}{4}$ % due to emigration. Find the net increase in percent in 3 years.

A. 8.63 %

B. 11.89 %

C. 13.25 %

D. 14.93 %

Q155) A shopkeeper sells an article for Rs. 200 with a loss of Rs. 20 %. Find the cost price of the article.

A. 220

B. 250

C. 280

D. 260

Q156) . A trader expects a gain of 15 % on his cost price. If in a week his sale is of Rs. 580, then what is his profit?

A. 75.65

B. 73.26

C. 72.50

D. 70.78

Q157) If a boy sells a book for Rs. 450 he gets a loss of 10 %, then find cost price. To gain 10 %, what should be the selling price?

A. 400, 500

B. 550, 600

C. 500, 550

D. 475, 525

Q158) . A merchant sells 30 metres of cloth and gains selling price of 10 metres. Find the gain percent.

A. 15 %

B. 25 %

C. 50 %

D. 75%

Q159) Find the value of ${}^{50}P_2$

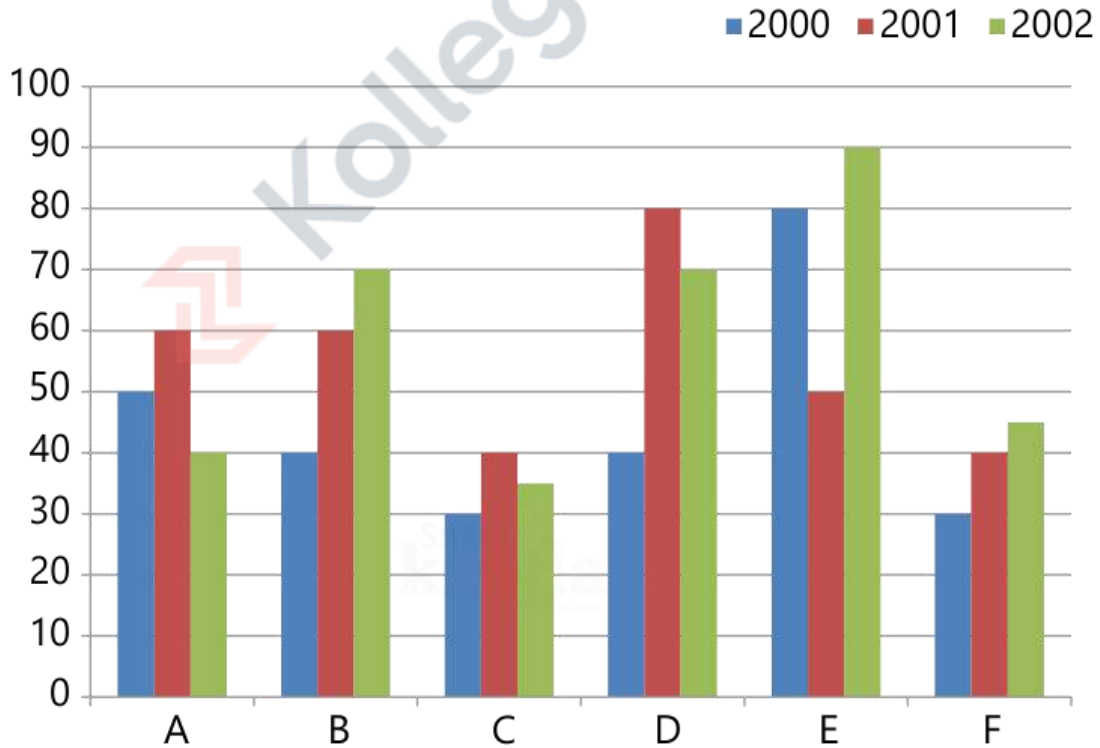
- A. 4500
- B. 3260
- C. 2450
- D. 1470

Q160) How many words can be formed by using letters of the word 'DELHI'?

- A. 50
- B. 72
- C. 85
- D. 120

Direction (161-165) : Directions: Study the following graph carefully & answer the questions given below it.

Production of Steel (in lakh tonnes) by different companies for three consecutive years 2000, 2001, 2002



Q161) Minimum production and maximum production of how many companies is in the ratio 2 : 3?

- A.1
- B.2
- C.3
- D. Can't be determined
- E. None of these

Q162) What is the difference of average production of 2001 & 2002 in lakh tonnes?

- A.2
- B.3.3
- C.4.5
- D.5
- E. None of these

Q163) Total production of A type company is what percentage of total production of E type company?

- A.66.5
- B.67.3
- C.68.18
- D.70.4
- E. None of these

Q164) Average production of A, D & E is approximately how much percentage of average production of B, C & F ?

- A.121%
- B.144%
- C.134%
- D.164.3%
- E. None of these

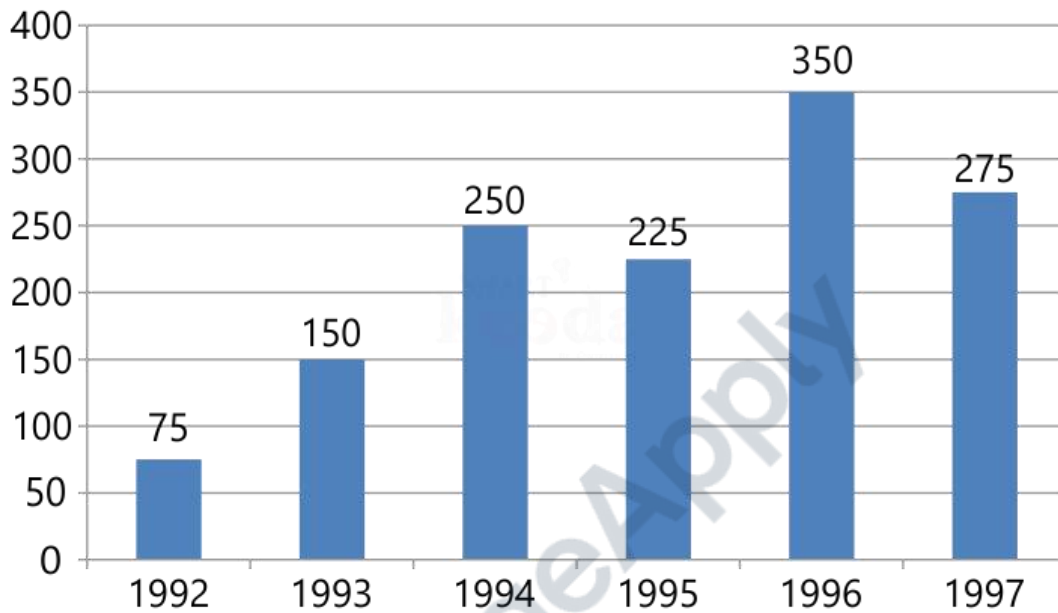
Q165) What is the approximate average of three highest productive (who has maximum production) companies in lakh tonnes?

- A.125
- B.165
- C.185
- D.193
- E. None of these

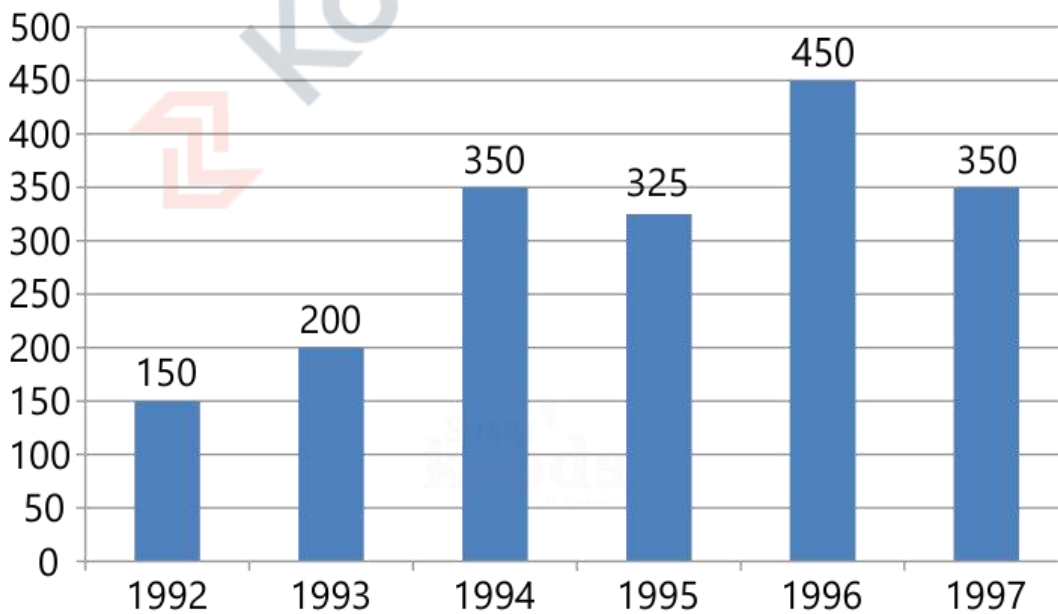
Directions(166-170) : Study the following graph carefully & answer the questions given below it.

**Value of imports and exports by company
over the years (The value are in crore)**

Import



Export



Q166) The value of exports in 1996 was what percent of the average value of imports in the year 1994, 1995 and 1997?

- A.200
- B.100
- C.300
- D.150
- E. None of these

Q167) The value of exports in 1994 was exactly what percent of the value of imports in the same year?

- A.125
- B.160
- C.200
- D.75
- E. None of these

Q168) What was the approximate difference between the value of average exports and the value of average import of the given years?

- A.Rs. 85 crores
- B.Rs. 100 crores
- C.Rs. 75 crores
- D.Rs. 90 crores
- E.Rs. 80 crores

Q169) In which of the following years was the difference between the value of exports and the value of imports exactly Rs. 100 crores?

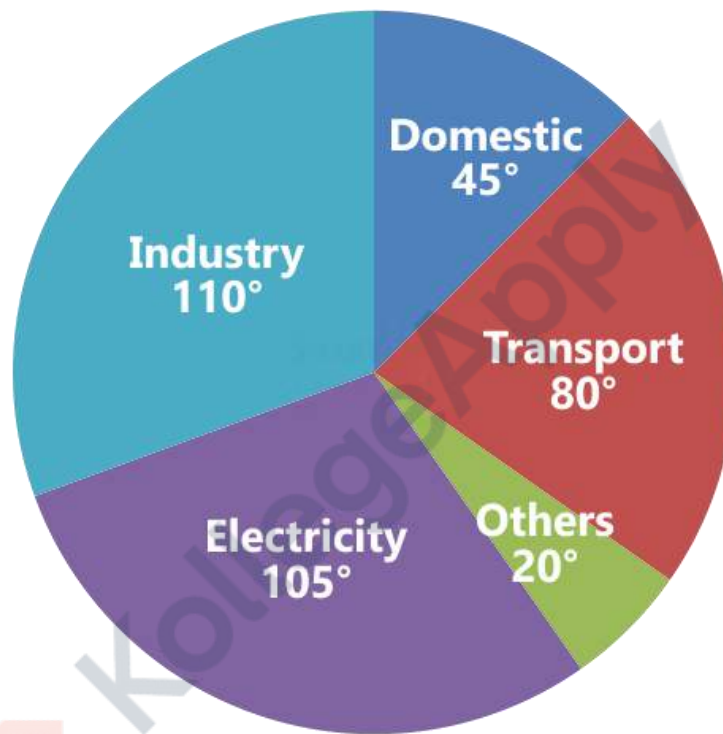
- A.1993
- B.1996
- C.1995
- D.1997
- E. More than one year

Q170) What was the percentage increase in the value of exports from 1995 to 1996?

- A.150
- B.100
- C.75
- D.50
- E. None of these

Directions(171-175) : Study the following graph carefully & answer the questions given below it.

The basic fuel expenditure of a country is dominated by four major uses - Domestic, Transport, Industry and Electricity. In 1992, the total amount of energy used was equivalent to 600 million tonnes of coal.



Q171) The energy consumed for other purposes is approximately what percentage of total energy consumed for the other four major uses in 1992 was?

- A.5%
- B.6%
- C.20%
- D.33%
- E. None of these

Q172) What is difference between energy used for domestic purposes and other purposes in the country in 1992?

- A. 35.33 million tonnes of coal
- B. 41.67 million tonnes of coal

- C. 52.75 million tonnes of coal
- D. Can't be determined
- E. None of these

Q173) The difference between the fuel consumption of Industry and Transport in 1992 was _____ equal _____ to?

- A. 30 million tonnes of coal
- B. 45 million tonnes of coal
- C. 50 million tonnes of coal
- D. 57 million tonnes of coal
- E. None of these

Q174) If the energy requirement of electricity in 1992 were 350 million tonnes, the amount of additional primary energy required would be?

- A. 600 million tonnes of coal
- B. 1200 million tonnes of coal
- C. 1810 million tonnes of coal
- D. 2100 million tonnes of coal
- E. None of these

Q175) If instead of coal, oil has been used in industry purposes and if 1 tonne of coal is equivalent to 3/4 tonnes of oil, what approximate amount of oil will be required in industry?

- A. 132.6 million tonnes
- B. 134.6 million tonnes
- C. 126 million tonnes
- D. 122.6 million tonnes
- E. None of these

Q176) Choose the alternative which is closely resembles the water-image of the given combination.

NUCLEAR

(1) **BAEGCUI**

(2) **ИПСТЕАВ**

(3) **ИУСГЕАВ**

(4) **ИПСТЕАВ**

- A.1
- B.2
- C.3
- D.4

Q177) Choose the alternative which is closely resembles the water-image of the given combination.

bridge

- | | |
|------------|------------|
| (1) pɹıqǝǝ | (2) pɹıqǝǝ |
| (3) pɹıqǝǝ | (4) pɹıpǝǝ |

- A.1
 - B.2
 - C.3
 - D.4
-

Q178) Choose the alternative which is closely resembles the water-image of the given combination.

GR98AP76ES

- | | |
|----------------|----------------|
| (1) GR68VP19E2 | (2) GR08VP19E2 |
| (3) GR08VP10E2 | (4) GR08AP10ES |

- A.1
 - B.2
 - C.3
 - D.4
-

Q179) Choose the alternative which is closely resembles the water-image of the given combination.

A1M3b

- | | |
|-----------|-----------|
| (1) V1M3P | (2) V1M3P |
| (3) V1M3P | (4) V1M3P |

- A.1
 - B.2
 - C.3
 - D.4
-

Q180) Choose the alternative which is closely resembles the water-image of the given combination.

E8t4e9C

- | | |
|-------------|-------------|
| (1) E8t4e9C | (2) E8t4e9C |
| (3) E8t4e9C | (4) E8t4e9C |

- A.1
- B.2
- C.3
- D.4

Q181) Choose the alternative which is closely resembles the mirror image of the given combination.

ANS43Q12

- | | |
|--------------|--------------|
| (1) AN243Q12 | (2) S1Q342NA |
| (3) 2NA34Q12 | (4) 12Q43AN2 |

- A.1
- B.2
- C.3
- D.4

Q182) Choose the alternative which is closely resembles the mirror image of the given combination.

TARAIN1014A

- | | |
|-----------------|-----------------|
| (1) A4101N1ARAL | (2) A1014N1ARAT |
| (3) A1014TARAIN | (4) A4101N1ARAT |

- A.1
- B.2
- C.3
- D.4

Q183) Choose the alternative which is closely resembles the mirror image of the given combination.

1965INDOPAK

- | | |
|-----------------|-----------------|
| (1) KAPODI 1965 | (2) PAKINDI 995 |
| (3) KAPODI 1965 | (4) PAKINDI 995 |

- A.1
- B.2
- C.3
- D.4

Q184) Choose the alternative which is closely resembles the mirror image of the given combination.

MALAYALAM

- (1) MALAYALAM (2) MAJAYAJAM
(3) MΛΛYΛΛM (4) MΛΓAYΛΓAM

- A.1
B.2
C.3
D.4
-

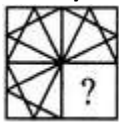
Q185) Choose the alternative which is closely resembles the mirror image of the given combination.

EFFECTIVE

- (1) EVITCEFFE (2) EVITCEFFE
(3) EFFECTIVE (4) EVITCEFFE

- A.1
B.2
C.3
D.4
-

Q186) Identify the figure that completes the pattern.



(X)



(1)



(2)



(3)



(4)

- A.1
B.2
C.3
D.4
-

Q187) Identify the figure that completes the pattern.



(X)



(1)



(2)



(3)

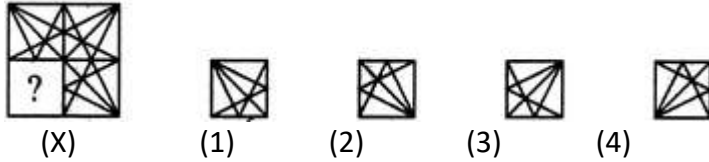


(4)

- A.1

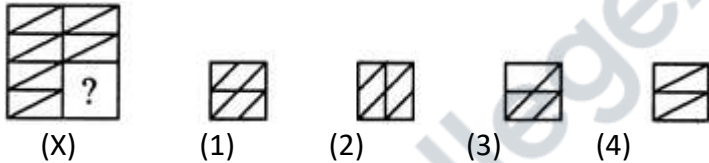
- B.2
- C.3
- D.4

Q188) Identify the figure that completes the pattern.



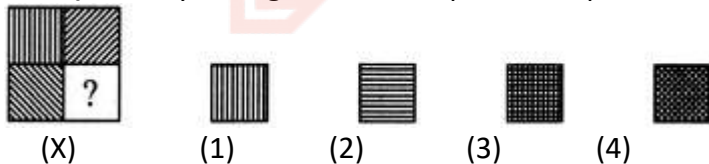
- A.1
- B.2
- C.3
- D.4

Q189) Identify the figure that completes the pattern.



- A.1
- B.2
- C.3
- D.4

Q190) Identify the figure that completes the pattern.



- A.1
- B.2
- C.3
- D.4

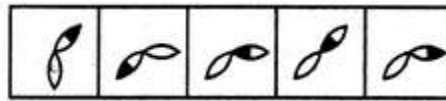
Q191) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:

Answer Figures:



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



(1) (2) (3) (4) (5)

- A.1
- B.2
- C.3
- D.4
- E.5

Q192) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



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

Answer Figures:

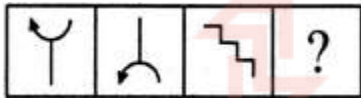


(1) (2) (3) (4) (5)

- A.1
- B.2
- C.3
- D.4
- E.5

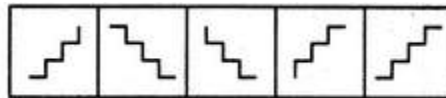
Q193) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



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

Answer Figures:



(1) (2) (3) (4) (5)

- A.1
- B.2
- C.3
- D.4
- E.5

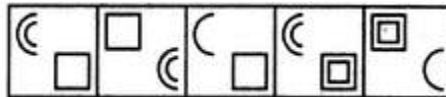
Q194) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



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

Answer Figures:

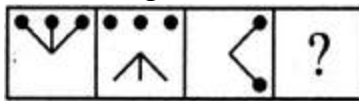


(1) (2) (3) (4) (5)

- A.1
- B.2
- C.3
- D.4
- E.5

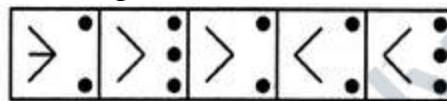
Q195) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



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

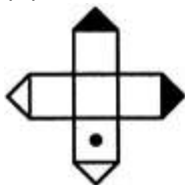
Answer Figures:



(1) (2) (3) (4) (5)

- A.1
- B.2
- C.3
- D.4
- E.5

Q196) Choose the box that is similar to the box formed from the given sheet of paper (X).



(X)



(1)



(2)



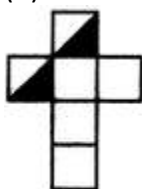
(3)



(4)

- A.1 and 2 only
- B.2 and 4 only
- C.2 and 3 only
- D.1 and 4 only

Q197) Choose the box that is similar to the box formed from the given sheet of paper (X).



(X)



(1)



(2)



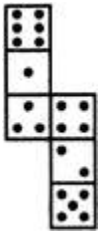
(3)



(4)

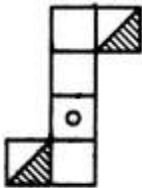
- A.1 and 4 only
- B.3 and 4 only
- C.1 and 2 only
- D.2 and 3 only

Q198) How many dots lie opposite to the face having three dots, when the given figure is folded to form a cube?



- A.2
- B.4
- C.5
- D.6

Q199) Choose the box that is similar to the box formed from the given sheet of paper (X).



(X)



(1)



(2)



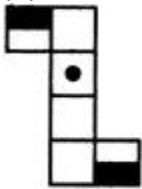
(3)



(4)

- A.1 and 3 only
- B.1 and 4 only
- C.2 and 4 only
- D.3 and 4 only

Q200) Choose the box that is similar to the box formed from the given sheet of paper (X).



(X)



(1)



(2)



(3)



(4)

- A.1 and 2 only

- B.2 and 3 only
- C.2 and 4 only
- D.1, 2, 3 and 4

ANSWERS:

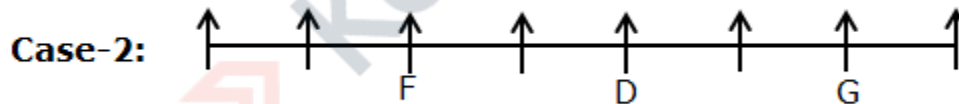
Directions (1-5) :



We have,

- G sits second from one of the ends.
- Only three persons sit between G and F, who sits second to the left of D.

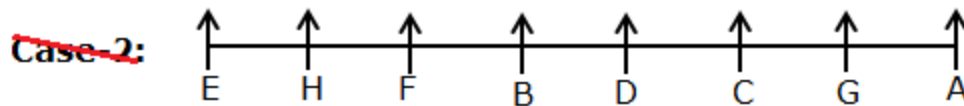
From the above condition, there are two possibilities



Again, we have,

- E sits third to the left of B and sits immediate left of H.
- The number of persons sitting between H and G is the same as the number of persons sitting between E and C.
- A doesn't sit at any extreme ends.

So, Case-2 gets eliminated, hence Case-1 shows the final arrangement



Q1) Answer: C

Q2) Answer: E

Q3) Answer: C (Only B, E and G)

Q4) Answer: A

Q5) Answer: D (The first person sits to the left of the second person with equal persons in between except option d)]

Q6) ANS : D

Venn Diagram Method:



Analytical Method:

$E + E = \text{No conclusion}$

Thus, neither conclusion I nor conclusion II follows.

Hence, option D is correct.

Q7) ANS : B

Venn Diagram Method:



Analytical Method:

All entrances are windows (A) + All windows are doors (A) + [No gate is a door (E)] = No door is a gate (E) = $A + E = E = \text{No entrance is a gate.}$

Hence, conclusion II follows .

Again,

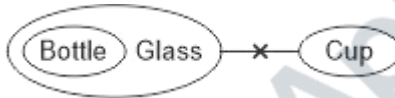
All window are doors (A) + [No gate is a door (E)] = No door is a gate (E) = A + E = E = No window is a gate.

Thus, conclusion I does not follow.

Hence, option B is correct.

Q8)

Venn Diagram Method:



Analytical Method:

All bottles are glasses (A) + [No cup is a glass (E)] = No glass is a cup (E) = A + E = E = No bottle is a cup.

Hence, conclusion I follows.

Again,

All bottles are glasses (A) = Some glasses are bottles (I). It means,

At least some glasses are bottles.

Hence conclusion II follows.

Thus, both conclusion I and II follow.

Hence, option E is correct.

Q9) ANS : E

Checking C1: At least some jackets are frocks.

Using S3 and S2,

Some jackets are pants + No pants are frocks = Some jackets are not frocks. Hence, C1 doesn't follow.

Checking C2: No jacket is a frock.

Clearly, we can observe that we have already got a definite conclusion above between the classes 'jacket' and 'frock'. Hence, C2 doesn't follow either.

However, we closely observe, we can find that both C1 and C2 together form a complementary pair and therefore either C1 or C2 definitely follows.

Option E is hence the correct answer.

Q10) ANS : B

Checking Conclusion I: Some bottles are not pans.

Here, neither S1 nor S2 is a negative statement, a negative conclusion between the classes of 'Bottles' and 'Pans' is not possible. C1, hence, doesn't follow.

Checking Conclusion II: Some mugs may not be jugs.

In S3 it's given that 'Some jugs are not mugs'. Here, we are not sure of the elements of the class 'Mugs'. Clearly, we can say that 'Some mugs may not be jugs'. C2, hence, follows.

Option B is hence the correct answer.

Q11) Option A

Rabies is caused by **Dog** **Malaria** is caused by **Mosquito**.

Q12) Option A

Detailed description of a man's life is **Biography**.

Similarly, detailed description of a Nations is called **History**.

Q13) Option D

Q14) ANS C

As Water of a River flows similarly water of Pool is Stagnant.

Q15) ANS D

As cat has Paw similarly Horse has Hoof.

Q16) Correct Option: B

Decoded representation:

B is the father of A. R is the sister of A. R is the daughter of E. E is the mother of Y. D is the brother of Y.

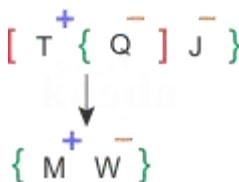
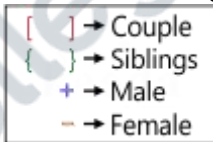


Thus clearly, only option B i.e. R is the sister of Y

Q17) Correct Option: C

Decoded representation:

M is the son of T. T is the father of W. W is the daughter of Q. J is the sister of Q.



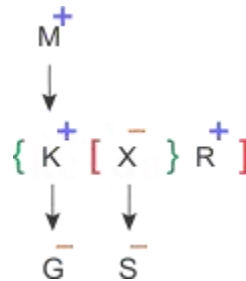
J is the maternal aunt of M.

Hence option C is correct.

Q18) Correct Option: D

Decoded representation:

G is the daughter of K. K is the son of M. M is the father of X. X is the mother of S. S is the daughter of R.



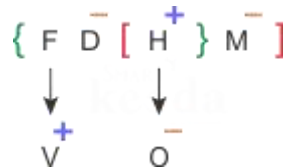
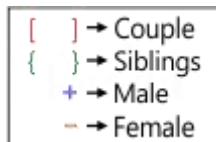
Except, "K is the paternal uncle of S." all other conclusions can be derived.

Hence option D is correct.

Q19) Correct Option: E

Decoded representation:

V is the son of F. D is the sister of F. H is the brother of D. H is the father of O. O is the daughter of M.



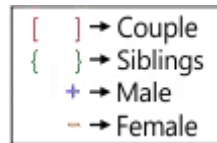
As we don't know whether F is the father or mother of V, thus we can't determine whether M is the Maternal aunt or Paternal aunt of V.

Hence, option E is correct.

Q20) Correct Option: A

Decoded Representation:

K is the daughter of D. C is the sister of D. C is the mother of G. V is the brother of G. V is the son of L.



L is the husband of C.

Hence option A is correct.

Q21) Option C

P - M → P is the brother of M

M + N → M is the mother of N

N x Q → N is the sister of Q

Therefore, P is the maternal uncle of Q.

Q22) Option A

The father of the boy's uncle → the grandfather of the boy and daughter of the grandfather → sister of father.

Q23) Option : D

Explanation:

If D is Male, the answer is Nephew.

If D is Female, the answer is Niece.

As the sex of D is not known, hence, the relation between D and A cannot be determined.

Note: Niece - A daughter of one's brother or sister, or of one's brother-in-law or sister-in-law. Nephew - A son of one's brother or sister, or of one's brother-in-law or sister-in-law.

Q24) Option : D

Explanation:

$M \times N \rightarrow M$ is the father of N

$N - C \rightarrow N$ is the sister of C

and $C + F \rightarrow C$ is the brother of F .

Hence, M is the father of C or C is the son of M .

Q25) Option : C

Explanation:

On 31st December, 2005 it was Saturday.

Number of odd days from the year 2006 to the year 2009 = $(1 + 1 + 2 + 1) = 5$ days.

$\therefore$ On 31st December 2009, it was Thursday.

Thus, on 1st Jan, 2010 it is Friday.

Q26) correct option : C

The hands of a clock coincide 11 times in every 12 hours, since between 11 and 1, they coincide only once, i.e., at 12 o'clock (12:00, 1:05, 2:11, 3:16, 4:22, 5:27, 6:32, 7:38, 8:44, 9:49, 10:55).

Q27) Option D

Explanation:

R is in every group of letter and 4 is in every group of numbers so $R = 4$ C L E A R = 5 6 7 8 4, S P A R E = 9 0 8 4 7 Here 847 are common So CL = 56 and SP = 90 Thus C A R E = 8 4 7

Q28) Option B

Explanation:

C A L A N D E R = C I R C U L A R

C L A N A E D R = C R I U C A L R

Here first and last letters are not dispositioned but other pairs are being reversed

Q29) Option A

Explanation:

There are two groups LIG and HT each being reversed

LIG HT RAI, NY

GIL TH IAR, YN

Q30) Option: A

Explanation :

Add two in the serial number of letters as :

$D = 4^{\text{th}} + 2 = 6$

$R = 18^{\text{th}} + 2 = 20$

$L = 12^{\text{th}} + 2 = 14$

$$A = 1st + 2 = 3$$

$$L = 12th + 2 = 14$$

Q31) Option: A

Explanation :

3+1=4 of the code

5-1=4 of the code

7+1=8 of the code

9-1=8 of the code

6+1=7 of the code

as 3 5 7 9 6

+1 -1 +1 -1 +1

4 4 8 8 7

So 4 6 8 2 3

+1 -1 +1 -1 +1

5 5 9 1 4

Q32) OPTION- A

Solution: By arranging the words in the alphabetical order, we have: Elect, Elector, Electric, Electrode, and Electron. Hence, Electric will come in the middle.

Q33) OPTION- D

Solution: By arranging the words in the alphabetical order, we have: Backing, Banishing, Banking, Barricading, and Bathing. Hence, Banishing will come at the second place.

Q34) OPTION- D

Solution: Alphabetical order is: Crude, Cruise, Crumb, Crupper, and Crusade. So, 'Crumb' will come in the middle.

Q35) OPTION- D

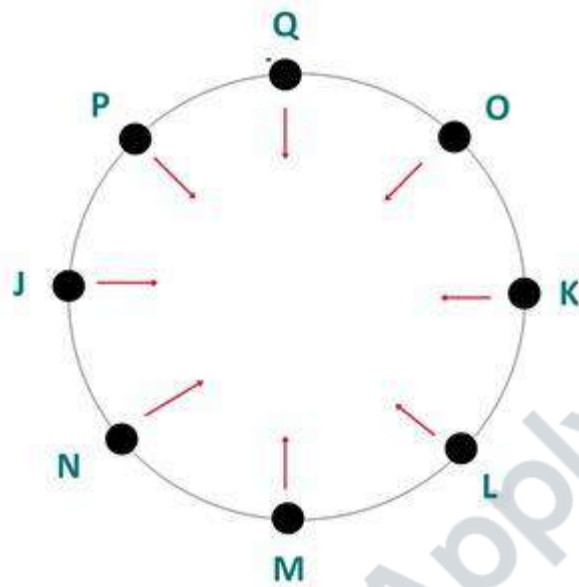
Solution: Alphabetical order is: Miniature, Minimalist, Ministerial, Manipulate, and Minority. So, 'Ministerial' will come in middle.

Q36) OPTION- B

Solution: Alphabetical order is: Sentence, Sententious, Sentimentally, Sentimentalize, and Sentinel. So, 'Sentimentally' will come in Middle.

Q37) Correct Option: B

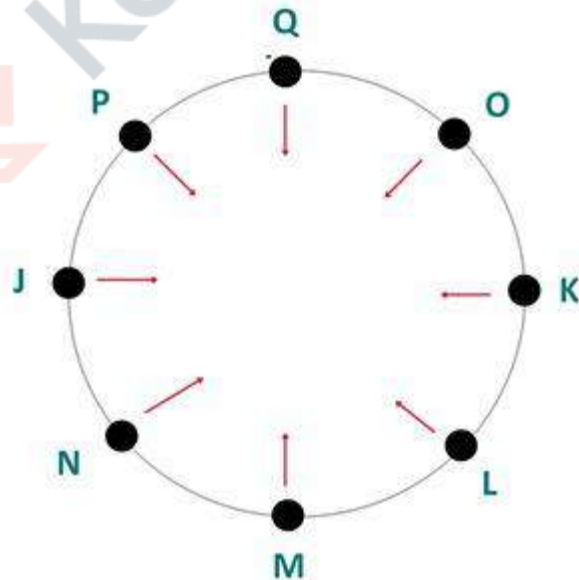
Kindly refer to the video for complete seating arrangement.



As you can see from the final diagram that N is an immediate neighbour of J. The option 'B' hence is correct.

Q38) Correct Option: B

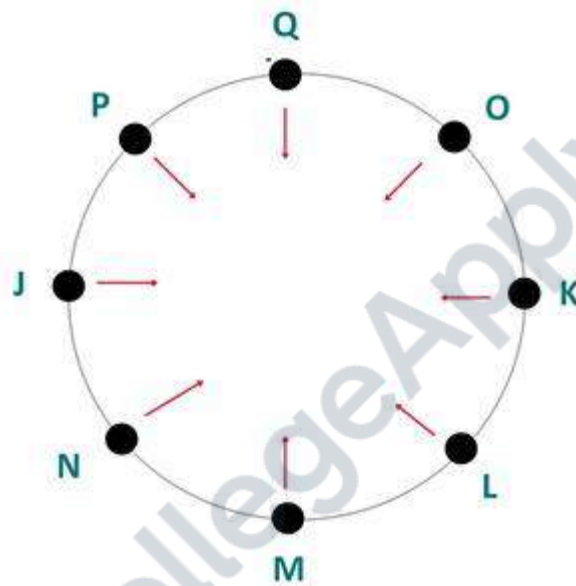
Kindly refer to the video for complete seating arrangement.



As you can see from the final diagram that N is an immediate neighbour of J. The option 'B' hence is correct.

Q39) Correct Option: E

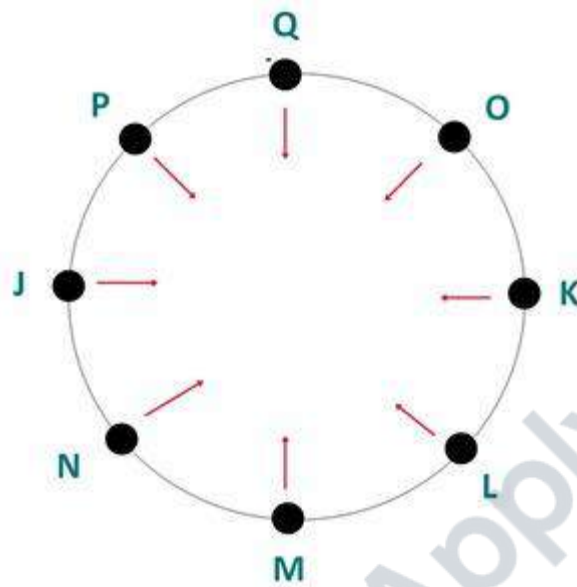
Kindly refer to the video for complete seating arrangement given in the explanation part of the Q. No. 1.



From the final diagram give above, one can clearly infer that in every given option except 'E', 2nd person is sitting immediate left to the 1st person. Therefore, option 'E' is odd one out here.

Q40) Correct Option: C

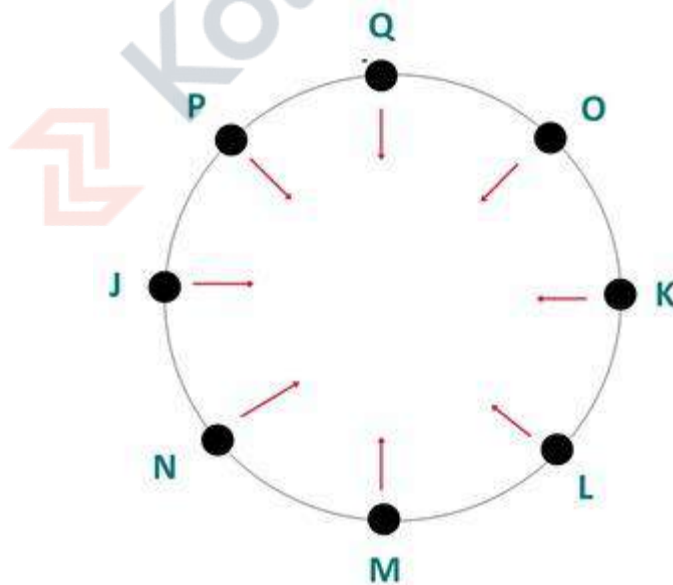
Kindly refer to the video for complete seating arrangement given in the explanation part of the Q. No. 1.



From the final diagram given above, one can clearly see that N is sitting 3rd to the left of K.

Q41) Correct Option: B

Kindly refer to the video for complete seating arrangement given in the explanation part of the Q. No. 1.



From the final diagram given above, it's evident that counting from the right of K there are only two persons O and Q sitting between K and P. The answer, hence, is option 'B'.

Q42) Correct Option: D

Dimple is sitting between Fatima and Gagan.

Option D, is hence the correct answer.

Common explanation:

Reference:

Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit.

Gagan is second to the right of Chaya.

Beena is fourth to the left of Gagan.

Inference:



Reference:

There are only three persons between Jaya and Ajit.

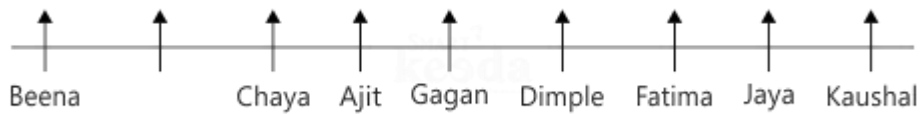
Inference:



Reference:

Dimple is not an immediate neighbour of either Kaushal or Beena.

Inference:



Final image:



Q43) Correct Option: A

Gagan is third to the right of Hemant.

Option A, is hence the correct answer.

Common explanation:

Reference:

Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit.

Gagan is second to the right of Chaya.

Beena is fourth to the left of Gagan.

Inference:



Reference:

There are only three persons between Jaya and Ajit.

Inference:



Reference:

Dimple is not an immediate neighbour of either Kaushal or Beena.

Inference:



Final image:



Q44) Correct Option: B

Gagan is third to the left of Jaya.

Option B, is hence the correct answer.

Common explanation:

Reference:

Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit.

Gagan is second to the right of Chaya.

Beena is fourth to the left of Gagan.

Inference:



Reference:

There are only three persons between Jaya and Ajit.

Inference:



Reference:

Dimple is not an immediate neighbour of either Kaushal or Beena.

Inference:



Final image:



Q45) Correct Option: C

Kaushal and Beena are sitting at the extreme ends of line.

Option C, is hence the correct answer.

Common explanation:

Reference:

Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit.

Gagan is second to the right of Chaya.

Beena is fourth to the left of Gagan.

Inference:



Reference:

There are only three persons between Jaya and Ajit.

Inference:



Reference:

Dimple is not an immediate neighbour of either Kaushal or Beena.

Inference:



Final image:



Q46) Correct Option: A

If Kaushal and Hemant exchange their places, then Chaya will be sitting on the immediate right of Kaushal.

Option A, is hence the correct answer.

Common explanation:

Reference:

Fatima is fourth to the right of Chaya and second to the left of Kaushal, who is fifth to the right of Ajit.
Gagan is second to the right of Chaya.
Beena is fourth to the left of Gagan.

Inference:



Reference:

There are only three persons between Jaya and Ajit.

Inference:



Reference:

Dimple is not an immediate neighbour of either Kaushal or Beena.

Inference:



Final

image:



Q47) Correct Answer : C

Q48) Correct Answer : B

Explanation :

Explanation:

A unique pattern has been made into use in this series.

All numbers are $(n^3 + n^2)$ where n is 1, 2, 3 and so on.

Q49) Correct Answer : A

Explanation :

Explanation:

$$6 = 1^1 + 2^1 + 3^1$$

$$14 = 1^2 + 2^2 + 3^2$$

$$36 = 1^3 + 2^3 + 3^3$$

$$98 = 1^4 + 2^4 + 3^4$$

Thus the next number will be

$$1^5 + 2^5 + 3^5 = 276$$

Q50) Correct Answer : C

Explanation :

Explanation:

$$+11 = 16$$

$$+33 = 49$$

$$+55 = 104$$

$$+77 = 181$$

Q51) Correct Answer : B

Explanation :

Explanation:

There are two series (8, 11, 14, 17, 20) and (7, 12, 17, 22) increasing by 3 and 5 respectively.

Q52) Correct Answer : D

Explanation :

The pattern is $1 \times 2, 2 \times 3, 3 \times 4, 4 \times 5, 5 \times 6, 6 \times 7, 7 \times 8$.

So, the next number is $8 \times 9 = 72$.

Q53) Correct Answer : B

Explanation :

Explanation:

Each number is the proceeding number multiplied by -2.

So, the required number is -128.

Q54) Correct Answer : B

Explanation :

Explanation:

Numbers are $(23 - 1)$, $(33 - 1)$, $(43 - 1)$, $(53 - 1)$, $(63 - 1)$, $(73 - 1)$ etc.

So, the next number is $(83 - 1) = (512 - 1) = 511$.

Q55) Correct Answer : C

Explanation :

The pattern is $+ 5$, $+ 7$, $+ 9$, $+ 11$,...

$\therefore$ Missing number $= 33 + 13 = 46$

Q56) Correct Answer : C

Q57) Option : C

Explanation:

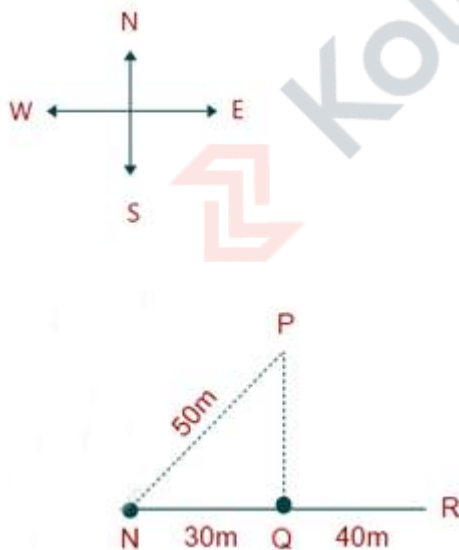
There are two alphabetical series here. The first series is with the first letters only: STUVW. The second series involves the remaining letters: CD, EF, GH, IJ, KL.

Q58) Option : A

Explanation:

The middle letters are static, so concentrate on the first and third letters. The series involves an alphabetical order with a reversal of the letters. The first letters are in alphabetical order: F, G, H, I, J. The second and fourth segments are reversals of the first and third segments. The missing segment begins with a new letter.

Q59) Correct Option: A



From Formula

$$NP^2 = NQ^2 + PQ^2$$

$$\therefore NP = \sqrt{NP^2 - NQ^2}$$

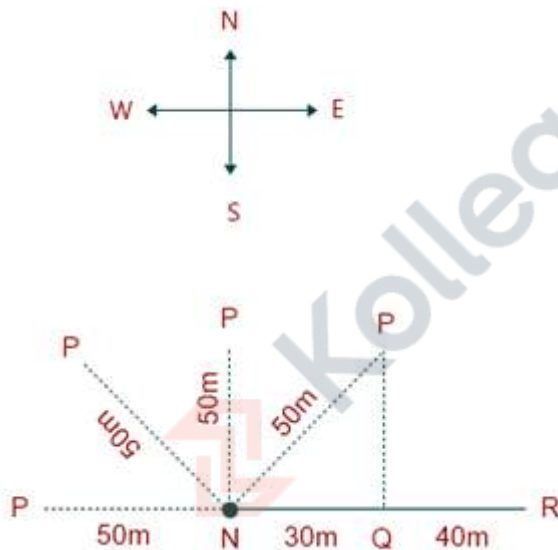
$$= \sqrt{(50)^2 - (30)^2}$$

$$= \sqrt{2500 - 900}$$

$$= \sqrt{1600} = 40\text{m}$$

Hence, option A is correct.

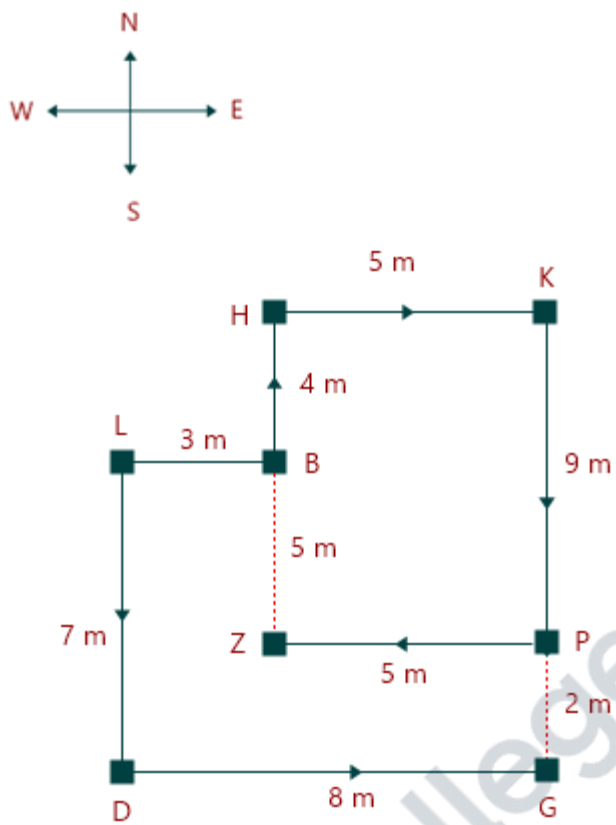
Q60) Correct Option: D



We can clearly observe from the figure that R is in either East or Southeast direction with respect to P.

Hence, option D is correct.

Q61) Correct Option: C

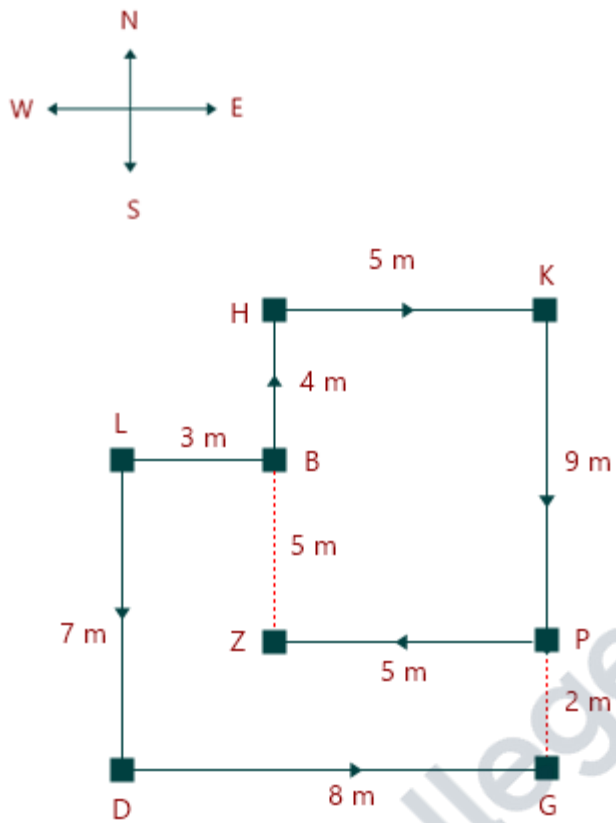


$$HZ = PK = 9 \text{ m}$$

$$\therefore BZ = HZ - BH = 9 - 4 = 5 \text{ m}$$

Hence, option C is correct.

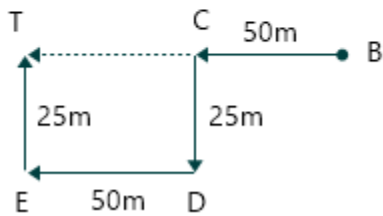
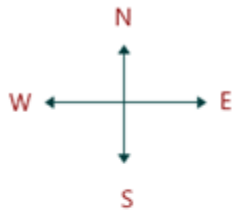
Q62) Correct Option: C



$\therefore KG = 4 + 7 = 11 \text{ m.}$

Hence, option C is correct.

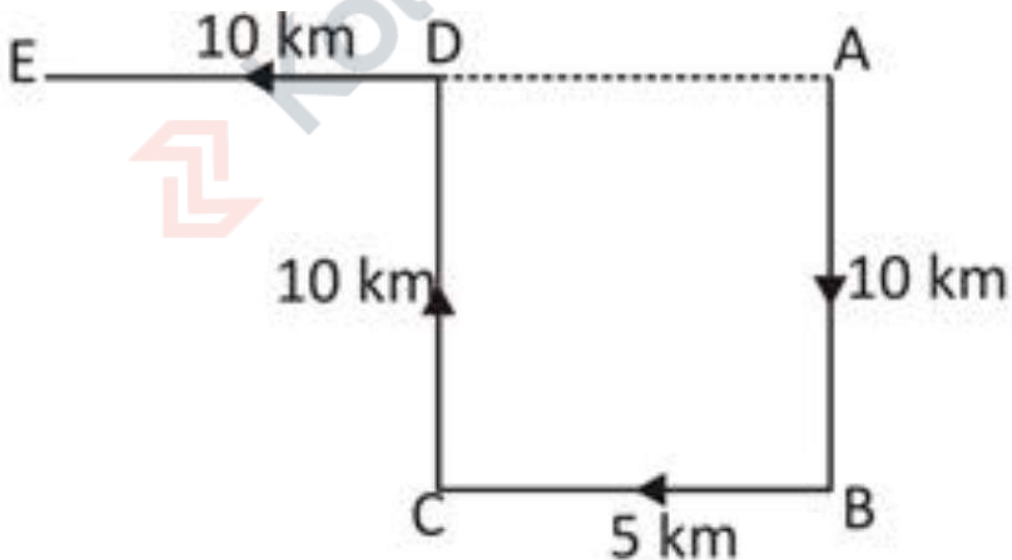
Q63) Correct Option: B



We can clearly observe from figure that the distance between starting point to end point (B to T) is $50\text{m} + 50\text{m} = 100\text{m}$.

Hence, option B is correct.

Q64) Option C



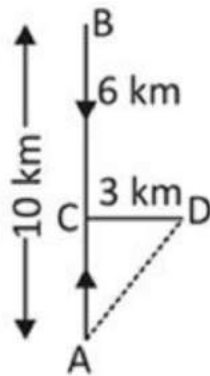
Clearly, Ravi starts from home at A, moves 10 km south wards up to B, turns right and moves and 5 km up to C, turns right again and moves 10 km up to D and finally turns left and moves 10

km up to E.

Thus his distance from initial position A = AE + DE = BC + DE = (5 + 10) km = 15 km

Hence, option B is correct.

Q65)) Option D



Clearly, Kunal moves from A 10 km north-wards up to B, then moves 6 km southwards up to C,

turns towards East and walks 3 km up to D. Then, $AC = (AB - BC) = (10 - 6) = 4$ km. So, Kunal's distance from the starting point A.

Also, D is to the North-east of A.

Hence, option D is correct

Q66) Option : C

Explanation:

Bus and Train are different from each other but some travelers travel by bus and some travel by train.

Q67) Option : B

Explanation:

Bonus and Dividend are different from each other. But both these are parts of profit.

Q68) Option : A

Explanation:

All mothers are women and some mothers and some women may be engineers.

Q69) Option : D

Explanation:

Product and Machinery are different from each other but both are found in Factory.

Q70) Option : B

Explanation:

All the three are different professions.

Q71) Option C

Explanation: Except Cashew, all others are fruits.

Q72) Option B

Explanation: Except bicycle rest require fuel.

Q73) Option A

Explanation: Except listening, all other require physical movement.

Q74) Option B

Explanation: Except Hammer, all others are pointed objects.

Q75) Option C

Explanation: Except carbon rest are used in jewelry.

Q76) Option D

Q77) Option C

Q78) Option B

Q79) Option B

Q80) Option D

Q81) Option A

Q82) Option D

Q83) Option C

Q84) Option D

Q85) Option C

Q86) Option D

Q87) Option D

Q88) Option C

Meaning: Bargained - to negotiate for something, Inundated - covered with water,

Groove - a channel or narrow cut making a channel, Clustered - collected

The second clause of the sentence describes the sentence to be of simple past tense.

With this, two options **“restricts and groove”** where verb is in its basic form, get

cancelled. The verb showing action for flood water cannot be **bargained**. The sentence shows the movement of flood water in rivers. Thus, only **“Inundated”** can be the answer as it defines agricultural fields filled with water

Q89) Option A

Sol. Fleeting: lasting for a very short time.

Transient: lasting only for a short time; impermanent.

Tranquil: free from disturbance; calm.

Tepid: (especially of a liquid) only slightly warm; lukewarm

Q90) Option C

Sol. Guile: sly or cunning intelligence

Chicanery: the use of deception or subterfuge to achieve one's purpose.

Q91) Option D

Unholy: sinful; wicked.

Venerate: regard with great respect; revere.

Pity: the feeling of sorrow and compassion caused by the sufferings and misfortunes of others.

Pave: cover (a piece of ground) with flat stones or bricks; lay paving over

Q92) Option A

Lax: not sufficiently strict, severe, or careful

Q93) Option D

Vacuum is the correct spelling.

Vacuum: space entirely devoid of matter

Q94) Option A

Knotty is the correct spelling.

Knotty: extremely difficult or complex

Q95) Answer: (C) Despise

Q96) Answer: (A) Disguise

Q97) Answer: (B) Crave

Q98) Answer: (D) Disinclination

Q99) Answer: (A) Hyper-criticism

Q100) Answer: (C) Do what others want you to do

Q101) Answer: (A) Try everything possible

Q102) Answer: (D) Admit defeat

Q103) Answer: (C) To discuss private affairs in public

Q104) Answer: (C) To discuss private affairs in public

Q105) Answer: (D) Stop yourself from saying something

Q106) Answer: (B) Antidote

Q107) Answer: (B) Plaintiff

Q108) Answer: (D) Teetotaller

Q109) Answer: (B) Polygamy

Q110) Answer: (A) Fastidious

Q111) Answer: (A) Judge in him

Correct form: **The judge in him** prevailed upon the father and he sentenced his son to death.

Q112) Answer: (C) Have rotted away

Correct form: Nine-tenths of the pillar **has rotten away**.

Q113) Answer: (D) No error

Q114) Answer: (B) Aimed to bring about

Correct form: Our efforts are aimed at bringing about a reconciliation.

Q115) Answer: (B) Each have parts to play

Correct form: Ghana, Nigeria and Gambia each have a part to play in the development of Africa.

Q116) Answer: (C) Neither has any merit

Correct form: He is a university professor but of his three sons **none has any merit**.

Q117) Answer: (A) After knowing truth

Correct form: **After knowing the truth**, they took the right decision in the matter.

Q118) Answer: (B) Decide on your next

Correct form: It is time you **decided on your** next course of action.

Q119) Answer: (C) Let him speak

Correct form: He who has suffered most for the cause let him speak.

Q120) Answer: (D) No error

Correct form: N/A

Q121) Answer: (A) Persecution

Q122) Answer: (B) License

Q123) Answer: (C) Irrelevant

Q124) Answer: (B) Alienate

Q125) Answer: (A) Concede

Q126) Answer: **B 15 days**

Solution:

Total work done by Akash, Sunil and Rakesh in 1 day = $\{(1/20) + (1/30) + (1/60)\} = 1/10$

Work done along by Akash in 2 days = $(1/20) \times 2 = 1/10$

Work Done in 3 days (1 day of all three together + 2 days of Akash's work) = $(1/10) + (1/10) = 1/5$

So, work done in 3 days = $1/5$

Time taken to complete the work = $5 \times 3 = 15$ days

Q127) Answer: **(A) Rs.300**

Solution:

Total work done by Samir and Tanvir = $\{(1/6) + (1/8)\} = 7/24$

Work done by Amir in 1 day = $(1/3) - (7/24) = 1/24$

Amount distributed between each of them = $(1/6) : (1/8) : (1/24) = 4:3:1$

Amount paid to Amir = $(1/24) \times 3 \times 2400 = \text{Rs.}300$

Q128) Answer: (C) 16 days

Solution:

Let the days taken by Arun to complete the work be x

The ratio of time taken by Arun and Dev = $125:100 = 5:4$

$5:4 :: 20:x$

$$\Rightarrow x = \{(4 \times 20) / 5\}$$

$$\Rightarrow x = 16$$

Q129) Answer: (B) 6 days

Solution:

Time taken by A = x days

Time taken by B = $x/2$ days

Time Taken by C = $x/3$ days

$$\Rightarrow \{(1/x) + (2/x) + (3/x)\} = 1/2$$

$$\Rightarrow 6/x = 1/2$$

$$\Rightarrow x = 12$$

Time taken by B = $x/2 = 12/2 = 6$ days

Q130) Answer: (E) 60 days

Solution:

Let the work done by Sonal in 1 day be x

Let the work done by Preeti in 1 day be y

$$\text{Then, } x+y = 1/30 \text{ ——— (1)}$$

$$\Rightarrow 16x + 44y = 1 \text{ ——— (2)}$$

Solving equation (1) and (2),

$$x = 1/60$$

$$y = 1/60$$

Thus, Preeti can complete the entire work in 60 days

Q131) Answer (D) 100 m

Solution:

When Ram meets Shyam for the third time, they together would have covered a

Distance of $5d$, i.e. $5 \times 30\text{m} = 150\text{ m}$.

The ratio of Speed of Ram and Shyam = $2:1$, so the total distance travelled by them will also be in the ratio $2:1$ as the Time taken is constant.

So the Distance travelled by Ram will be $2/3 \times 150 = 100\text{ m}$

Q132) Answer (A) 5 kmph

Solution:

We are given that two thirds of the 6 km was covered at 4 km / hr i.e. 4 km distance was covered at 4 km / hr. Time taken to cover 4 km = $4\text{ km} / 4\text{ km} / \text{hr} = 1\text{ hr} = 60\text{ minutes}$

Time left = $84 - 60 = 24\text{ minutes}$

Now, the man has to cover remaining 2 km in 24 minutes or $24 / 60 = 0.4\text{ hours}$

Speed required for remaining 2 km = $2\text{ km} / 0.4\text{ hr} = 5\text{ km} / \text{hr}$

Q133) Answer (B) 36 kmph

Solution:

When distance travelled is same, then average speed = $2ab / (a+b)$; (where a and b are two different speeds) therefore,

The Average Speed = Therefore, Average Speed = $2 \times 45 \times 30 / 45 + 30$, solving this we get 36 kmph.

Q134) ANSWER : (A) 312

Explanation:

$$\frac{\text{Story books}}{\text{Non-Story books}} = \frac{4}{3}$$

$$\therefore \text{Non-Story books} = \frac{3}{4} \times \text{Story books} = \frac{3}{4} \times 1248 = 936$$

Let M story books be added. So number of story books = $1248 + M$

$$\therefore \frac{\text{Story books}}{\text{Non-Story books}} = \frac{5}{3}$$

$$\therefore \frac{1248 + M}{936} = \frac{5}{3}$$

$$\therefore 1248 + M = 1560$$

$$\therefore M = 312 = \text{Number of books added}$$

Q135) ANSWER: (A) Rs. 1280

Explanation:

Now share of A and B is 2:3

So options B and C are not possible.

Consider Option 1 i.e. **Share of A = Rs. 1280**

$$\frac{\text{Share of A}}{\text{Share of B}} = \frac{2}{3}$$

$$\therefore \text{Share of B} = \frac{3}{2} \times \text{A's Share} = \frac{3}{2} \times 1280 = \text{Rs. 1920}$$

Similarly B:C = 4:5

$$\therefore \text{Share of C} = \frac{5}{4} \times \text{B's Share} = \frac{5}{4} \times 1920 = \text{Rs. 2400}$$

Similarly C:D = 6:7

$$\therefore \text{Share of D} = \frac{7}{6} \times \text{C's Share} = \frac{7}{6} \times 2400 = \underline{\underline{\text{Rs. 2800}}}$$

$$\text{TOTAL} = \text{Rs. 8400}$$

Total is Rs. 8400 so **answer is Option A i.e. Rs. 1280**

Q136) ANSWER: (A) 35 years

Explanation:

Approach 1 – Direct Observation

For this sum, ratio of age of father to son is 7:2

Father's age should be divisible by 7.

Only 35 is divisible by 7 **so answer is Option A i.e. 35 years**

We can confirm it by checking conditions after 10 years too.

Approach 2 – By solving

Let the common factor be K

So the present ages of father and son will be 7K and 2K

After 10 years, their ages will be 7K+10 and 2K+10 years respectively

$$\therefore \frac{7K+10}{2K+10} = \frac{9}{4}$$

$$\therefore 28K+40 = 18K + 90$$

$$\therefore K = 5$$

$$\therefore \text{Father's present age} = 7k = 35 \text{ years}$$

Q137) ANSWER: (A) 8

Explanation:

Let the common factor be k.

Hence, the number of articles of type P, Q and R will be 3K, 2K and 3K respectively

Also,

Unit price of article x Number of articles = Total amount for the articles

$$\therefore 300 \times 3K + 180 \times 2K + 120 \times 3K = 6480$$

$$\therefore K = 4$$

$$\therefore \text{Number of articles of Type Q} = 2K = 8$$

Q138) ANSWER: (D) 4:3

Explanation:

Let initially money with Ajay be A and with Raj be R

$$\text{So, } A + R = 1050$$

Also, Money is taken from Ajay, so,

$$A - 150 = R$$

$$\therefore A - R = 150$$

Adding both equations,

$$2A = 1200$$

$$\therefore A = \text{Rs. } 600 = \text{Initial money with Ajay}$$

$$\therefore R = 1050 - 150 = \text{Rs. } 450 = \text{Initial money with Raj}$$

$$\therefore \frac{\text{Amount with Ajay}}{\text{Amount with Raj}} = \frac{600}{450} = \frac{4}{3}$$

Explanation:

Let initially money with Ajay be A and with Raj be R

$$\text{So, } A + R = 1050$$

Also, Money is taken from Ajay, so,

$$A - 150 = R$$

$$\therefore A - R = 150$$

Adding both equations,

$$2A = 1200$$

$$\therefore A = \text{Rs. } 600 = \text{Initial money with Ajay}$$

$$\therefore R = 1050 - 150 = \text{Rs. } 450 = \text{Initial money with Raj}$$

$$\therefore \frac{\text{Amount with Ajay}}{\text{Amount with Raj}} = \frac{600}{450} = \frac{4}{3}$$

Q139) ANSWER: (D) 42 years

Explanation:

Let present age of Umesh = U years,

Mahesh = M years and Reena = R years

We know, $U = 7R$ and $M = 6R$

Also after 6 years,

$$U + 6 = 4(R + 6)$$

$$7R + 6 = 4R + 24$$

$$\therefore R = 6 \text{ years} = \text{Present age of Reena.}$$

$$\text{Present age of Umesh} = 7R = 7 \times 6 = 42 \text{ years}$$

Q140) ANSWER: (B) 83 years

Explanation:

Let, Ajay's age = A ;

So, **Rohan's age** will be = 5 times Ajay's = **$5A$ years**

Also, Rohan's age = $\frac{7}{18}$ of Meena's age

$$\therefore \text{Meena's age} = \frac{18}{7} \text{ of Rohan's age} = \frac{18}{7} \times 5A = \frac{90A}{7} \text{ years}$$

Ajay's age + Rohan's age + Meena's age = 132 $\longrightarrow$ **Given**

$$\therefore A + 5A + \frac{90A}{7} = 132 \text{ years}$$

$$\therefore 7A + 35A + 90A = 132 \times 7 \longrightarrow \text{Multiply by 7 on both sides}$$

$$\therefore A = 7 \text{ years} = \text{Ajay's age}$$

$$\text{Meena's age} = \frac{90A}{7} = 90 \text{ years}$$

Ajay is $(90-7=83)$ years younger than Meena

Q141) ANSWER: (C) 27 years

Explanation:

Total age of 10 students and their teacher = $11 \times 15 = 165$ years.

Total age of first 7 students = $7 \times 15 = 105$ years

Total age of 3 students = $3 \times 11 = 33$ years

$\therefore$ Total age of 10 students = $105 + 33 = 138$ years

Age of their teacher = $165 - 138 = 27$ years

Q142) ANSWER : (A) 29 years

Explanation:

$$\text{Average age of Ram and Shyam} = \frac{\text{Ram's age} + \text{Shyam's age}}{2} = 65$$

$$\therefore \text{Ram's age} + \text{Shyam's age} = 130$$

$$\text{Average age of Ram, Shyam \& John} = \frac{\text{Ram's age} + \text{Shyam's age} + \text{John's age}}{3} = 53$$

$$\therefore \frac{130 + \text{John's age}}{3} = 53$$

$$\therefore \text{John's age} = 29 \text{ years}$$

Q143) ANSWER: (C) 12:23

Explanation:

13 years ago,

Nina's age = Nina's present age - 13 = 37-13 = 24 years

Aman's age = Aman's present age - 13 = 59-13 = 46 years

$$\therefore \frac{\text{Nina's age}}{\text{Aman's age}} = \frac{24}{46} = \frac{12}{23} = \mathbf{12:23}$$

Q144) Correct Option: (A)

Let two numbers be x and y

We are given that, sum of two numbers $x + y = 31$ and product $= xy = 240$

Therefore,

$$x - y = (x + y)^2 - 4xy$$

Substituting the values, we get

$$x - y = (31)^2 - 4 \times y$$

$$= 961 - 960$$

$$= 1$$

$$= 1$$

The required difference between the numbers is 1.

Q145) Correct Option: (c)

Let the three numbers be x, y and z.

Given: Sum of squares of three numbers is 138 and sum of their products taken two at a time is 131

Therefore,

$$x^2 + y^2 + z^2 = 138$$

$$xy + yz + zx = 131$$

$$\text{Formula: } (a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$$

This formula can be used to easily find the sum of three numbers. Substituting the values, we get

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2(xy + yz + zx)$$

$$(x + y + z)^2 = 138 + 2(131)$$

$$(x + y + z)^2 = 400$$

$$\text{Hence, } (x + y + z) = 20$$

Q146) Correct Option: (c)

Let the numbers be x, x + 2, and x + 4

Hence, sum of these numbers = (average x no. of numbers) = $(18 \times 3) = 54$

$$x + (x + 2) + (x + 4) = 54$$

$$3x = 48$$

$$x = 16$$

$$\text{Largest number} = (x + 4) = (16 + 4) = 20$$

Q147) Correct Option: (B)

Let the unknown number be x .

$$5 \text{ times a positive number} = 5x$$

5 times a positive number is less than its square by 24

$$x^2 - 5x = 24$$

$$x^2 + 3x - 8x - 24$$

$$x(x + 3) - 8(x + 3)$$

$$(x - 8)(x + 3)$$

$$x = 8$$

8 is the required integer.

Q148) Correct Option: (A)

Read the question breaking stepwise and understand given parameters.

1) Let the fraction be $\frac{a}{b}$

2) Sum of numerator and denominator $= a + b = 30$ ---- (1)

3) 2 is added to numerator and 2 is subtracted from denominator. Hence,

$$\frac{a + 2}{b - 2} = \frac{2}{3}$$

$$3(a + 2) = 2(b - 2)$$

$$3a + 6 = 2b - 4$$

Solving, we get

$$3a + 6 = 2b - 4$$

$$3a - 2b = -10$$
 ---- (2)

Solve equations (1) and (2), we get

$$a = 10 \text{ and } b = 20$$

$$\text{Therefore, the fraction} = \frac{10}{20} = \frac{1}{2}$$

Q149) Correct Option: (c)

Let two numbers be x and y .

It is given that, 8 % of $x = 10$ % of y

Therefore,

$$x = \frac{10}{8}y = \frac{5}{4}y$$

Difference between two numbers $(x - y) = 1550$

Substituting the value of x , we get

$$\frac{5}{4}y - y = 1550$$

$$\frac{y}{4} = 1550$$

$$y = 1550 \times 4 = 6200$$

$$x = \frac{5}{4} \times 6200 = 7750$$

The two numbers whose difference is 1550 are 6200 and 7750.

Q150) Correct Option: (B)

The sum of 2 % of P and Sum of 2% of Q is two-third of the sum of 2 % of P and 6 % of Q.
This sentence means that,

$$2\% \text{ of } P + 2\% \text{ of } Q = \frac{2}{3}(2\% \text{ of } P + 6\% \text{ of } Q)$$

$$\frac{2}{100}P + \frac{2}{100}Q = \frac{2}{3}\left(\frac{2}{100}P + \frac{6}{100}Q\right)$$

$$\frac{1}{50}P + \frac{1}{50}Q = \left(\frac{1}{75}P + \frac{1}{25}Q\right)$$

$$\begin{bmatrix} 1 & 1 \\ 50 & -75 \end{bmatrix} P = \begin{bmatrix} 1 & 1 \\ 25 & -50 \end{bmatrix} Q$$

$$\frac{1}{150}P = \frac{1}{50}Q$$

$$\frac{P}{Q} = \frac{150}{50} = \frac{3}{1}$$

Q151) Correct Option: (D)

Let the number be x.

It is given that, 50 % of a number is 18, less than two-third of that number. This means that,

$$\frac{2}{3}x - (50\% \text{ of } x) = 18$$

$$\frac{2}{3}x - \frac{50}{100}x = 18$$

$$50x = 5400$$

$$x = 108$$

Q152) Correct Option: (B)

We have to calculate the gain in 2 years.

1) In case of Suresh

$$\text{S.I.} \frac{10000 \times 4 \times 2}{100} = \text{Rs. } 800$$

2) In case of Ramesh

$$\text{S.I.} \frac{10000 \times 6 \times 2}{100} = \text{Rs. } 1200$$

Suresh has to pay a simple interest of Rs. 80 to the person from whom he borrowed Rs. 1000 and Ramesh has to pay Rs. 120 to Suresh.
Hence, gain in 2 years = 1200 – 800 = Rs. 400

But we are asked to find gain of Suresh per year. Therefore,
Gain in 1 year = 400 / 2 = Rs. 200

Q153) Correct Option: (D)

Hint: If sum of money becomes (z times) in (T) years at simple interest, then rate of interest (R) can be calculated using the formula:

$$\text{Rate of Interest (R) \%} = \frac{100 (z - 1)}{T}$$

Here, principal amount is not given.

Hence, we can directly use the trick to calculate the rate of interest.

$$\text{Rate of Interest (R) \%} = \frac{100 (2 - 1)}{20}$$

$$\text{Rate of Interest (R) \%} = 5 \% \text{ p.a.}$$

Alternate solution

Let Principle = P, then S.I. = P

$$P = \frac{(P \times R \times T)}{100}$$

$$R = \frac{(P \times 100)}{(P \times T)} = \frac{100}{20} = 5 \% \text{ p.a.}$$

Q154) Correct Option: (D)

Hint: If population of a city is P₁ and it increases by R % annually, then population after n years is given by:

$$P_2 = P_1 \left[1 + \frac{R}{100} \right]^n$$

Solution:

We are given that, the population of a city increases 5 % annually but decreases by $\frac{1}{4}$ % due to emigration.

Assume original population of the city = 100

1) Increase in population = 5 %

2) Decrease in population due to emigration = $\frac{1}{4}$ %

Hence, net annual increase = 5 % - $\frac{1}{4}$ % = $\frac{19}{4}$ %

Therefore,

$$\text{Population in 3 years} = P_2 = P_1 \left[1 + \frac{R}{100} \right]^n$$

$$= 100 \left[1 + \frac{19}{4 \times 100} \right]^3$$

$$= 100 \times \left[\frac{419}{400} \right]^3$$

$$= 114.93$$

Population after 3 years will be 114.93 and at present it is 100. Therefore,

Increase in population = 114.93 – 100 = 14.93 %

Q155) Correct Option: (B)

Hint:

$$\text{Cost Price} = \frac{100}{(100 - \text{Loss}\%)} \times \text{S.P.}$$

We are given that,

S.P. = Rs. 200 and loss = 20

$$\text{Cost Price} = \frac{100}{(100 - 20)} \times 200$$

$$\text{Cost Price} = \frac{100}{80} \times 200$$

Cost Price = Rs. 250

Q156) Correct Option: (A)

We are given selling price = Rs. 580 and expected profit of 15 %

Therefore, we can easily solve this numerical, considering basic formulae of profit and loss.

Let cost price = x

Selling price = C.P. + Profit

S.P. = C.P. + (15% of C.P.) ----- (We know that profit is gained on cost price)

$$580 = x + (0.15 x)$$

$$580 = 1.15 x$$

Therefore,

$$x = 504.347$$

Cost Price = Rs. 504.35

Now, we have the cost price and hence,

$$\text{Profit} = \text{S. P.} - \text{C.P.} = 580 - 504.35 = \text{Rs. } 75.65$$

The trader gets a profit of Rs. 75.65

Q157) Correct Option: (c)

1) Find cost price

Let C.P. of book = x and S.P. = Rs. 450

S.P. of book = C.P. – (10% of C.P.)

$$\text{S.P.} = x - (0.10x)$$

$$450 = 0.9 x$$

x i.e cost price = Rs. 500

2) Find Selling Price to gain 10 %.

Now, we are asked to find selling price to gain 10% profit.

Hint:

$$\text{Selling Price} = \frac{(100 + \text{Gain}\%)}{100} \times \text{C.P.}$$

$$\text{Selling Price} = \frac{(100 + 10)}{100} \times 500$$

$$\text{Selling Price} = \frac{(110)}{100} \times 500$$

Therefore, selling Price = Rs. 550

Q158) Correct Option: (c)

Here, selling price of 10 m cloth is obtained as profit.

Profit of 10 m cloth = (S.P. of 30 m cloth) – (C.P. of 30 m cloth)

Selling price of 20 m cloth = Selling Price of 30 m of cloth

Let cost of each metre be Rs. 100.

Therefore, cost price of 20 m cloth = Rs. 2000 and S.P. of 20 m cloth = Rs. 3000

$$\text{Profit\%} = \frac{10}{20} \times 100 = 50\%$$

Profit of 50 % was made by the merchant.

Q159) Correct Option: (c)

Hint:

$${}^nP_r = \frac{n!}{(n-r)!}$$

Here $n = 50$ and $r = 2$

$$\frac{50!}{(50-2)!} = \frac{50 \times 49 \times 48!}{48!} = 50 \times 49 = 2450$$

Value of ${}^{50}P_2 = 2450$

Q160) Correct Option: (D)

Hint:

The word 'DELHI' contains 5 letters

Therefore, required number of words = ${}^5P_5 = 5! = (5 \times 4 \times 3 \times 2 \times 1) = 120$

120 words can be formed by using letters of the word 'DELHI'

Q161) Correct Option: B

The ratio of minimum production to maximum production in different companies are as follows:

Comp. Min Max Ratio

A → 40 : 60 ⇒ 2 : 3

B → 40 : 70 ⇒ 4 : 7

C → 30 : 40 ⇒ 6 : 7

D → 40 : 80 ⇒ 4 : 7

E → 50 : 90 ⇒ 8 : 9

F → 30 : 45 ⇒ 2 : 3

Only twice minimum production and maximum production have the ratio of 2 : 3.

Hence, option B is correct.

Q162) Correct Option: B

Average production in the year 2001 –

$$\Rightarrow \frac{60 + 60 + 40 + 80 + 50 + 40}{6}$$

$$\Rightarrow \frac{330}{6} \Rightarrow 55.$$

Average production in the year 2002 –

$$\Rightarrow \frac{40 + 70 + 35 + 70 + 90 + 45}{6}$$

$$\Rightarrow \frac{350}{6} \Rightarrow 58.3$$

$$\text{Difference} \Rightarrow 58.3 - 55 = 3.3.$$

Hence, option B is correct.

Q163) Correct Option: C

Total production of A type company -

$$\Rightarrow 50 + 60 + 40 \Rightarrow 150$$

Total production of E type company -

$$\Rightarrow 80 + 50 + 90 \Rightarrow 220$$

According to question

$$\frac{150}{220} \times 100 \Rightarrow \frac{750}{11} \Rightarrow 68.18$$

Hence, option C is correct.

Q164) Correct Option: B

Average production of A, D & E

$$\frac{150 + 190 + 220}{3} \Rightarrow \frac{560}{3}$$

Average production of B, C & F

$$\frac{170 + 105 + 115}{3} \Rightarrow \frac{390}{3} \Rightarrow 130$$

According to question –

$$\frac{(560/3)}{130} \times 100$$

$$\Rightarrow \frac{56000}{390}$$

$$\Rightarrow 143.58\% \approx 144\%$$

Hence, option B is correct.

Q165) Correct Option: D

Total production -

A → 150

B → 170

C → 105

D → 190

E → 220

F → 115

Average of three highest production which is clearly of company B, D and E

$$= \frac{170 + 190 + 220}{3}$$

$$= 193.34 \Rightarrow 193 \text{ lakh tonnes}$$

Hence, option D is correct.

Q166) Correct Option: E

Average value of imports in the year 1994, 1995 and 1997 -

$$\frac{250 + 225 + 275}{3} = \frac{750}{3} = 250$$

Value of exports in 1996 — 450

According to question —

$$\frac{450}{250} \times 100 = 180\%.$$

Hence, option E is correct.

Q167) Correct Option: E

$$\frac{350}{250} \times 100 = 140\%$$

Hence, option E is correct.

Q168) Correct Option: A

Average of imports

$$= \frac{75 + 150 + 250 + 225 + 350 + 275}{6}$$

$$= \frac{1325}{6} = 220.83$$

Average of Exports

$$= \frac{150 + 200 + 350 + 325 + 450 + 350}{6}$$

$$= \frac{1825}{6} = 304.16$$

$$\begin{aligned} \text{Difference} &= 304.16 - 220.83 \\ &= 83.33 \approx 85. \end{aligned}$$

Hence, option A is correct.

Q169) Correct Option: E

1994, 1995 and 1996

The difference between the value of export and import in different years are:

$$1992 \quad - \quad 150 - 75 \quad = 75$$

$$1993 \quad - \quad 200 - 150 \quad = 50$$

$$1994 \quad - \quad 350 - 250 \quad = 100$$

$$1995 \quad - \quad 325 - 225 \quad = 100$$

$$1996 \quad - \quad 450 - 350 = 100$$

$$1997 \quad - \quad 350 - 275 = 75$$

In the year 1994, 1995 and 1996 the difference between export and import is 100 cr.

Hence, option E is correct.

Q170) Correct Option: E

$$\frac{450 - 325}{325} \times 100 = 38.46\%$$

Hence, option E is correct.

Q171) Correct Option: B

Energy used for others purpose = 20°

$$\text{Total Energy used for 4 major areas} = 110^\circ + 105^\circ + 45^\circ + 80^\circ = 340^\circ$$

$\therefore$ Required percentage

$$= \frac{20}{340} \times 100 = 5.88\% \approx 6\%$$

Hence, option B is correct.

Q172) Correct Option: B

As per the given data given difference between energy used for domestic purpose and other purposes = $45^\circ - 20^\circ = 25^\circ$

Now, 360° is equivalent to 600 million tonnes

$$\text{Then, } 25^\circ = \frac{600}{360} \times 25$$

$$= 41.67 \text{ million tonnes}$$

Hence, option B is correct.

Q173) Correct Option: C

The difference between fuel consumption of Industry and transport in degrees = $110^\circ - 80^\circ = 30^\circ$

Now, As $360^\circ = 600$ million tonnes

Then, $30^\circ = \frac{600}{360} \times 30 = 50$ million tonnes

Hence, option C is correct.

Q174) Correct Option: A

Electricity consumed = 105°

Let's assume the total energy requirement be x million tonnes

Then, $105^\circ : 350 :: 360^\circ : x$

$\therefore x = \frac{350 \times 360^\circ}{105} = 1200$ million tonnes

$\therefore$ Additional energy required = $1200 - 600 = 600$ million tonnes

Hence, option A is correct.

Q175) Correct Option: E

Given, 1 tonne of coal = 0.75 tonnes of oil

$\therefore 600$ million tonnes = $0.75 \times 600 = 450$ million tonnes

Now, consumption of oil in industry —

$\frac{110}{360} \times 450 = 137.5$ million tonnes

Hence, option E is correct.

Q176) Option D

Q177) Option B

Q178) Option C

Q179) Option C

Q180) Option D

Q181) Option B

Q182) Option D

Q183) Option D

Q184) Option B

Q185) Option A

Q186) Option D

Q187) Option C

Q188) Option D

Q189) Option D

Q190) Option B

Q191) Option C

Q192) Option A

Q193) Option A

Q194) Option B

Q195) Option C

Q196) Option C Explanation:

The fig. (X) is similar to the Form VI. So, when a cube is formed by folding the sheet shown in fig. (X), then  is one of the faces of the cube. However, the cube in fig. (1) has two such faces and fig. (4) has a face which is completely shaded. So, these two cubes cannot be formed. Hence, only the cubes in figures (2) and (3) can be formed.

Q197) Option A Explanation:

The fig. (X) is similar to the Form I. So, when the sheet shown in fig. (X) is folded to form a cube then one of the two half-shaded faces lies opposite to one of the blank faces and the other half-shaded face lies opposite to another blank face. The two remaining blank faces lie opposite to each other. Thus, both the cubes shown in figures (1).and (4) can be formed when the sheet shown in fig. (X) is folded. Also, though the cubes shown in figures (2) and (3) have faces that can appear adjacent to each other but the cube formed by folding the sheet in fig. (X) cannot be rotated to form either of the two. Hence, the cubes in figures (2) and (3) cannot be formed.

Q198) Option D Explanation:

The given figure is similar to [Form V](#). Therefore, when this figure is folded to form a cube then the face bearing six dots will lie opposite the face bearing three dots.

Q199) Option A Explanation:

The fig. (X) is similar to [Form II](#). So, when the sheet shown in fig. (X) is folded to form a cube then the two half-shaded faces lie opposite to each other, the face bearing a circle lies opposite to one of the two blank faces and the two remaining blank faces lie opposite to each other. Therefore, the cubes shown in fig. (4) which has the two half-shaded faces adjacent to each other, cannot be formed by folding the sheet shown in fig. (X). Also, the cube shown in fig. (2) has the face bearing a circle adjacent to two blank faces. This is not possible since there is one blank face opposite to the circle and one blank face opposite to the third blank face. Hence, only the cubes in figures (1) and (3) can be formed.

Q200) Option D Explanation:

The fig. (X) is similar to **Form II**. So, when a cube is formed by folding the sheet shown in fig. (X), then the two half-shaded faces lie opposite to each other and one of the three blank faces appears opposite to the face bearing a dot. Clearly, each one of the four cubes shown in figures (1), (2), (3) and (4) can be formed by folding the sheet shown in fig. (X).

