IBPS PO Mains Previous Year Paper 2022

Directions (1-5): Study the following information carefully to answer the given questions:
Twenty-one persons have different designations i.e., CEO, MD, DGM, AGM, Manager and Clerk in a bank. The order of seniority is the same as given above i.e., CEO is the senior-most designation and Clerk is the junior-most designation. The number of persons working at any position is one more than its just senior post. For example- If three persons work as an AGM than four persons work as manager and so on.
P, T and W work at same post. S is senior to W. X is senior to U who does not designated as AGM. R and V work at same post. Neither B nor H work as manager but both work at same post. D, E and H work at same post but junior to Q and T. Q is junior to U. Same number of post is senior to Q and T. X is junior to N but senior to R. A, L and M work at same post. W does not work as Manager. R is neither Manager nor Clerk. Z and Y are senior to G and O.
Now these persons are transferred to different department i.e., HR, Marketing and Legal according to the given conditions below:
I. No transfer for top two posts and they become the leaders of HR, Marketing and Legal respectively according to the alphabetical series.
II. Persons whose name starts with a consonant which comes before M in the alphabetical series transfer to HR.
III. Persons whose name starts with a consonant which comes after M in the alphabetical series transfer to Marketing.
IV. Rest will go to Legal department.

Q1. How many persons are senior to V?
(a) Three
(b) Five
(c) Four
(d) Six
(e) None of these

Q2. How many persons are transfer to Legal department?
(a) Eight
(b) Seven
(c) Five
(d) Three
(e) None of these

Q3. Which of the following statement is not true?
I. The number of persons transfer to Marketing department is more than the ones who transfer to Legal department.
II. T is junior to O
III. P and T both are senior to Z
(a) Both I and II
(b) Only II
(c) Both II and III
(d) Only III
(e) All I, II and III

Q4. Who among the following person/s is/are designated as Manager?
(a) Q, P, W
(b) M, E, H
(c) G, O, Y
(d) E, H, B
(e) L, M, Z

Q5. Who among the following is working with M?
(a) Z
(b) H
(c) W
(d) Y
(e) Both Z and Y

Directions (6-9): Study the following information carefully to answer the given questions:
In a certain code language:
"All tree Pass here" is coded as "$@* ^#+ ^#? ^#+"
"Boys toss equal bowl" is coded as "^#? ^#? &@* ^#*"
"We are true people" is coded as "!#+ $@+ ^#+ %#+"
"Vowel groups side there" is code as "&#* %#? ^#+ &#+"

Q6. What is the code for "Press"?
(a) &#?
(b) &@?
(c) $#+
(d) &@+
(e) None of these

Q7. What is the code for "Blue"?
(a) $@?
(b) &@+
(c) ^#+
(d) ^@+
(e) None of these

Q8. The code "&@+" is coded for?
(a) Iron
(b) Europe
(c) Erase
(d) Trail
(e) Jail

Q9. Which of the following is wrong combination?
(a) Trail - &#*
(b) Real - ^#*
(c) June - &#?
(d) Jungle - %#+
(e) Freeze - %#+

Directions (10-11): After 8 phases of election in Bengal, on 2nd May the 'khela' becomes over. TMC lead by Chief Minister Mamata Banerjee has got success to clean sweep Bengal election despite of strong opposition heavyweight Bhartiya Janata Party. Top Central Ministers and chief ministers of BJP ruled states also participated in rallies. While seated in a wheelchair Didi with her injured left foot, rallies could not have been easy. But Didi scored! And her supporters and TMC cheered.

Q10. I. TMC Party workers start celebration and there is some news of violence between BJP & TMC workers.
II. Out of 292 seats, TMC has marked a major victory by winning 225 seats and BJP has not touched the triple figure.
Give answer
(a) If Statement I is the cause and Statement II is its effect.
(b) If Statement II is the cause and Statement, I is its effect.
(c) If both the Statements I and II are independent causes.
(d) If both the Statements I and II are effects of independent causes.
(e) If both the Statement I and II are effects of some common causes.

Q11. Which of the following abrogates the news of winning by TMC party?
(I) At one of the hottest seats in Bengal i.e. Nandigram. BJP has defeated TMC by 1952 votes.
(II) Vote share of BJP has increased from 25% to 32% as compared to last year.
(III) Out of 292 seats, TMC won 225 seats which is a record number.
(a) Only II and III
(b) Only I and III
(c) Only I and II
(d) Only III
(e) Only II

Directions (12-14): Study the following information carefully to answer the given questions:
Two buses P and Q start their journey from bus depot to different destinations. Bus P starts 12km in south and reach at point 1. Then turns left and travel 13km to reach at point 2. Then turns right and travel 14km to reach at point 3. After that it turns left and travels 18km to reach at point 4. Then bus P turns to left and travel 9km to reach final stops 5. Bus Q travel 16km in east of depot to reach at point 6. Now turns right and travel 11km to reach at point 7. Then turns left and travel 22km to reach at point 8. Then turns left and travel 14km to react at point 9. Finally turns left and travel 39km to reach at point 10. These stops are assigned names according to the given below conditions:
* If the distance between two consecutive points is prime number, then first stops is called 'A'
* If the stops (points) are in north-west and south-east of bus depot, then these points are called 'B'
* If the stops (points) are in north-east of bus depot, then these points are called 'C'
* If the distance between two consecutive points is even number, then first stops is called 'D'

Q12. Find the odd one out?
(a) Distance between stop 2 and stop 4
(b) Distance between stop 7 and stop 9
(c) Distance between stop 3 and bus depot
(d) Distance between stop 8 and stop 9
(e) Distance between stop 6 and bust depot

Q13. What is the shortest distance between point 1 and point 6?
(a) 28km
(b) 20km
(c) 24km
(d) 32km
(e) None of these

Q14. Ajay takes E-rikshaw from bus depot and goes 8km in west direction then takes left and goes 6km to reach his house. Find the shortest between Ajay's house and stop 1?
(a) 12km
(b) 10km
(c) Can't be determined
(d) 14km
(e) 20km

Directions (15-18): Study the following information carefully to answer the given questions:
Ten persons- M, N, O, P, Q, T, U, V, W and X sit around a circular table but not necessarily in the same order. Five of them face inside and rest of them face outside. No two consecutive alphabetical named persons sit adjacent to each other. Not more than two neighbours face the same direction.
Two persons sit between W and N. M sits 3rd to the right of N. Immediate neighbour of M face opposite direction to each other. X and V sit immediate left to each other but not an immediate neighbour N. O and P sit 2nd to the right of each other. Immediate neighbours of U face the same direction but not same as U. No one sits between O and X either one of the sides. W and Q face the same direction. X does not face outside.

Q15. How many minimum numbers of persons sit between Q and the one who sits just left of X?
(a) Six
(b) Seven
(c) Two
(d) Eight
(e) Can't be determined

Q16. Four of the following five are alike in a certain way and hence form a group. Who among the following does not belong to that group?
(a) X
(b) W
(c) Q
(d) V
(e) M

Q17. The number of persons sit between N and W when counted to the left of W is same as the numbers of persons sit between ____ and ____ when counted to the left of ____.
(a) X, T
(b) Q, U
(c) U, O
(d) V, Q
(e) None of these

Q18. Which of the following statement is true?
I. Both V and T face the same direction
II. O and T are not an immediate neighbour
III. V sits 3rd to the left of W
(a) Both I and III
(b) Only III
(c) Both II and III
(d) Only II
(e) Only I

Q19. Statement: The current active wet spell over the two states A and B, the largest producer of wheat, brought cheers to farmers, especially wheat growers.
Which of the following can be the reason of happiness of wheat growers from the given statement?
(I) The rain will help in improving photosynthesis resulting in better growth of the crop, which will result in improved yield.
(II)The minimum temperature has also come down which is good for wheat crop as it thrives in cold conditions.
(III) Rain will help in reducing pressure on groundwater and would also help in retaining soil moisture.
(IV) As the both states A and B are biggest crop producer and completely dependent on farming as occupation so adequate amount of rain at right time is a matter of joy for them.
(a) Only I and II are implicit
(b) Only III is implicit
(c) Only III and IV are implicit
(d) All are implicit
(e) Only I, II and III are implicit

Q20. Statement: All State governments have been asked to create awareness about the testing and prevention of widely spread swine flu and also to ensure that there are enough beds and medicines to treat any cases of this contagious disease.
Which of the following can be assumed from the given statement?
(I) H1N1 influenzas (or swine flu) is a highly contagious acute respiratory disease of pigs.
(II) Swine flu viruses do not normally infect humans.
(III) Even being contagious disease, the treatment of swine flu is possible.
(a) Only I and II are implicit
(b) Only III is implicit
(c) Only III and I is implicit
(d) All are implicit
(e) None of the above

Directions (21-24): Study the following information carefully to answer the given questions:
9 persons P, Q, R, S, T, U, V, W and X of different age belong to three different states viz. Assam, Manipur and Tripura but not necessarily in the same order. Not less than two and not more than four persons belong to any state.
Note: If it is given that A and the one who is 12 years old belong to same state then it means A is not 12 years old.

W and the one who is 51 years old belong to same state. Only Q and the one whose age is 18 years belong to same state. P and V belong to different state. W is 7 years younger to V. S is twice older to Q. P and S belong to different state. V who is 61 years old and the one whose age is 64 years belong to same state. S neither belongs to Assam nor Tripura. The one whose age is 35 years belong to Tripura. No one's age is less than 18 years and more than 68 years. T and the one who is 64 years old belong to the same state. W does not belong to Tripura. U and the one who is 29 years old belong to same state. P is not belonged to Assam. R is 29 years old and 3 years younger to Q. X is the youngest one. P is 2 years older to U. P's age is not multiple of 5.

Q21. How many persons are younger to the one who is just younger to T?
(a) Seven
(b) Four
(c) Three
(d) Five
(e) More than seven

Q22. Who among the following belongs to Manipur?
(a) The one who is 37 years old
(b) U
(c) The youngest one
(d) T
(e) Both T and U

Q23. What is the sum of the ages of T, P and W?
(a) 134 years
(b) 142 years
(c) 147 years
(d) 98 years
(e) None of these

Q24. Which of the following statement is true?
I. U is younger to W
II. R does not belong to Manipur
III. Sum of the ages of Q and T is more than 35 years
(a) Both I and II
(b) Only III
(c) All I, II and III
(d) Both II and III
(e) Only I

Directions (25-28): Each of the questions below consists of a question and two statements numbered I, and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and answer the following questions.

Q25. Eight persons sit around a circular table and face inside. Who among the following sits 3rd to the left of Q?
Statement I: P and O are immediate neighbors. One person sits between P and Q. R does not sits 2nd to the right of O. Neither Q nor S is immediate neighbor of T.
Statement II: One person sits between S and T. Two persons sit between S and R. Q neither sits near S nor R. Q sits near T and O who does not sit just left of Q.

(a) If the data in statement I alone are sufficient
(b) If the data in statement II alone are sufficient
(c) If the data either in statement I alone or statement II alone are sufficient to answer
(d) If the data given in both I and II together are not sufficient
(e) If the data given in both the statements I and II together are necessary to answer

Q26. Seven persons A-G sit in a row face north but not necessarily in the same order. Who among the following sits exactly between B and E?
Statement I: C is the only immediate neighbor of G. F sits 2nd to the left of B. E sits three places away from A.
Statement II: D sits 3rd to the left of B but not sit at any extreme end. C sits 2nd to the right of A. B and G are not an immediate neighbor.
(a) If the data in statement I alone are sufficient
(b) If the data in statement II alone are sufficient
(c) If the data either in statement I alone or statement II alone are sufficient to answer
(d) If the data given in both I and II together are not sufficient
(e) If the data given in both the statements I and II together are necessary to answer

Q27. Nine persons of different heights are arranged in descending order according to their height. Who among the following is the 3rd tallest?
Statement I: Two persons are between Q and R. P is shorter than S but not just shorter. The number of persons between R and S is same as the number of persons between Q and R. T and U are not shorter to S. More than two persons between P and U. T is taller than R.
Statement II: Only two persons are shorter to Q. One person is between Q and V. No one is between V and R. The number of persons between R and Q is same as the number of persons taller to T. U is taller than T and shorter than S.
(a) If the data in statement I alone are sufficient
(b) If the data in statement II alone are sufficient
(c) If the data either in statement I alone or statement II alone are sufficient to answer
(d) If the data given in both I and II together are not sufficient
(e) If the data given in both the statements I and II together are necessary to answer

Q28. Eight balls throw on the floor and now they are at some distance and direction from each other. In which direction is ball R with respect to ball O?
Statement I: Ball R is in 15m west of ball P. Ball M is in 6m south of Ball R. Ball T is in 12m north of Ball Q.
Statement II: Ball S is in 15m south of Ball P. Ball O is in 6m south of Ball N. Ball T is in 18m west of Ball O. Ball N is in 9m east of Ball S.
(a) If the data in statement I alone are sufficient
(b) If the data in statement II alone are sufficient
(c) If the data either in statement I alone or statement II alone are sufficient to answer
(d) If the data given in both I and II together are not sufficient
(e) If the data given in both the statements I and II together are necessary to answer

Directions (29-31): Study the following information carefully and answer the questions that follow:
'P@Q' means 'P is the son of Q'
'P ^Q' means 'P is the father of Q'
'P ÷ Q' means 'P is the brother of Q'
'P+Q' means 'P is the daughter of Q'
'P - Q' means 'P is the mother of Q'
'P = Q' means 'P is the sister of Q'
'P%Q' means 'P is the husband of Q'

Q29. If the given expression "A^E+D; L+G ___ M÷L" is true then what will come in the blank so that the relation "E is the mother of M" is true?
(a) @
(b) +
(c) ^
(d) =
(e) None of these

Q30. Which of the following expression holds true that 'E is the maternal grandmother of A'?
(a) A-B÷C^D=E
(b) A-B÷C^D^E
(c) A-B+C^D÷E
(d) A=B+C÷D+E
(e) A+D=C@B%E

Q31. If the expression 'Q÷O-K+D and N÷M-Q@L' is true which of the following is definitely true?
(a) M is the sister-in-law of D
(b) N is the son of L
(c) L is the mother of O
(d) Q is the brother-in-law of D
(e) N is the son of K

Directions (32-35): Study the following information carefully to answer the given questions:
Ten family members are sitting in two parallel rows containing five people each, in such a way that there is an equal distance between adjacent persons. In row–1 A, B, C, D and E are seated and all of them are facing north. In row-2 P, Q, R, S and T are seated and all of them are facing south. Therefore, in the given seating arrangement each member seated in a row faces another member of the other row.
P faces the one who sits 2nd to the left of his nephew. One person sits between P's nephew and P's mother. A is the sister-in-law of D who is not married. S is the granddaughter of B who sits left of P's mother but not just left. R is the only brother of D who is the only immediate neighbour of B's wife. Q is the husband of S and sits 2nd to the right of R's father. A is the daughter of E and faces to the one who sits 2nd to the right of Q's wife. P is the brother-in-law of R who is the father of C. T's son sits just right of C's brother-in-law. A's father-in-law sits at one of the extreme ends. Both D and A are of same gender but opposite to C's gender. B is not father of R.

Q32. How many persons sit between A's father and T's daughter?
(a) Three
(b) One
(c) Two
(d) None
(e) Can't be determined

Q33. How is R related to the one who sits exactly in the middle of the row-1?
(a) Brother-in-law
(b) Son
(c) Father-in-law
(d) Father
(e) Son-in-law

Q34. Which of the following statement is true?
(a) A is the P's spouse
(b) A's father-in-law and E's husband sits diagonally opposite to each other
(c) Two persons sit between D's brother and Q
(d) S is sister of D
(e) None is true

Q35. Four of the following five are alike in a certain way and hence form a group. Who among the following does not belong to that group?
(a) P
(b) S
(c) R
(d) B
(e) T

Q36. Statement: In **a bid to assist visually impaired people to easily determine denomination of currency notes, the Indian Institute of Technology at Ropar in Punjab has developed an Android App "Roshni", using image processing and analytics.**
Which of the following can be inferred from the given statement?
(I) The currency notes comprised of patterns and features embedded on the notes to differentiate and determine the currency denomination.
(II) Image Processing and Analytics is a technology helpful for visual impairment.
(III) There is a large number of visually impaired people in Punjab.
(a) Only I and II are implicit
(b) Only III is implicit
(c) Only III and I is implicit
(d) All are implicit
(e) None of the above

Q37. The Supreme Court belongs to everyone. The independence of the judiciary rests on public trust, and public trust is not maintained by one-sided inquiries.
Which of the following can be assumed from the given statement?
(I) One sided inquiry leads to flaw in supreme court's decisions.
(II) Defamation of Supreme court is the result of broken public trust.
(III) Independence of Judiciary implies the decisions are not based on one sided inquiry.
(a) Only I and II are implicit
(b) Only III is implicit
(c) Only I and III are implicit
(d) All are implicit
(e) None is implicit

Directions (38-42): Study the following information carefully to answer the given questions:
Nine persons - A, B, C, D, E, F, G, H and I live on different floors of nine storey building. Ground floor is numbered as 1st floor and just above the ground floor is numbered as 2nd floor and so on till the topmost floor is numbered as 9th floor. They speak different languages i.e., Marathi, Hindi, Gujrati, Tamil, Malayalam, Telugu, Kannad, Punjabi and Bengali. All the data is not necessarily in the same order.
D speaks Telugu. Three persons live between A and the one who speaks Malayalam. The number of persons live above A is same as the number of persons live below H.A does not speak Kannad. Three persons live between H and the one who speaks Bengali. The number of persons live above G is same as the number of persons live below the one who speaks Bengali. Two persons live between E and the one who speaks Kannad. E does not speak Bengali. The one who speaks Hindi lives just above the one who speaks Gujrati. Neither A nor E speaks Hindi. C lives just below the one who speaks Marathi but lives above the 4th floor. The number of persons live above I is same as the number of persons live below the one who speaks Tamil. F lives above I's floor. The one who speaks Punjabi doesn't live on the bottommost floor.

Q38. How many persons live below the one who lives just above G?
(a) Three
(b) Four
(c) Two
(d) One
(e) More than four

Q39. Which of the following statement is not true?
I. E lives more than two floors above the one who speaks Telugu
II. The number of persons live between the ones who speaks Gujrati and Malayalam is same as the number of persons live above H
III. B lives below the one who speaks Kannad
(a) Both II and III
(b) Only I
(c) Both I and II
(d) Only III
(e) None is true

Q40. Four of the following five are alike in a certain way and hence form a group. Who among the following does not belong to that group?
(a) H
(b) B
(c) I
(d) A
(e) E

Q41. Who among the following speaks Punjabi?
(a) A
(b) E
(c) B
(d) H
(e) None of these

Q42. If all the persons are arranged in alphabetical order from top to bottom then the position of how many persons remains unchanged?
(a) One
(b) Four
(c) Two
(d) Three
(e) None

Directions (43-45): In these questions symbols ©, #, %, $ and @ are used with different meanings as follows.
'M © N' means 'M is smaller than N'
'M # N' means 'M is either smaller than or equal to N'
'M % N' means 'M is greater than N'
'M $ N' means 'M is either greater than or equal to N'
'M @ N' means 'M is neither smaller than nor greater than N'
In each of the following questions assuming the given statements to be true, find out which of the two conclusions I and II given below them is/are definitely true. Give answer

Q43.
Statements:
B $ D % G @ Q; L # M © N # Q; M $ P % U
Conclusions:
I. D % U
II. N % G
III. M © B
(a) Both I and II
(b) Only III
(c) Both I and III
(d) All I, II and III
(e) Only I

Q44.
Statements:
22 $ 26 $ 35 @ 41 # 29; 53 $ 29 @ 32 # 38
Conclusions:
I. 35 © 32
II. 53 $ 41
III. 41 $ 29
(a) Both I and II
(b) Only II and either I or III is true
(c) Both I and III
(d) Both II and III
(e) Only II

Q45.
Statements:
L # M © N @ O % P; N $ Q @ T; G # H © T
Conclusions:
I. O $ Q
II. P % G
III. H © L
(a) Both I and II
(b) Only III
(c) Both I and III
(d) All I, II and III
(e) Only I

Q46. A right circular cylindrical tank of radius 'r' cm and height 'r+12' cm contains milk. The entire quantity of milk is taken out from the cylindrical tank and poured into 'N' number of hemispherical bowls such that each bowl is filled up to its maximum capacity. If the maximum capacity of each bowl is $\frac{11r^3}{35}$ cm^3. Which among the following (I, II, III & IV) is /are the possible value/s of 'N'. (R & N are positive integers)
I. 6
II. 34
III. 25
IV. 19
(a) Both I & II
(b) Both III & IV
(c) Both I & III
(d) Both II & III
(e) None of these

Q47. R is the elder to Q?
(i) The present age of P is twice the age of R twelve years hence.
(ii) Age of P six years hence is equal to the sum of 2/3rd of the present age of R and 1/5th of the present age of Q.
(iii) P is 12 years elder to Q's daughter and Q is 18 years elder to his daughter.

(a) Only (i) & (iii) together
(b) Only (ii) & (iii) together
(c) Only (iii)
(d) All of the three together
(e) Only (ii)

Q48. Cost price of an article is Rs. A. and a shopkeeper marked that article B% above its cost price. He allows 25% discount on marked price and earned profit of Rs. (B+20). If the same article is marked up by (B+5) % and allows same discount and earned profit of Rs. (B+65), then which of the following is/are correct.

(a) $\frac{A}{8} = 4B$
(b) 29.5B + 20 = A
(c) None of the above
(d) 1.2A = 36B
(e) Both (b) & (d)

Q49.

(i) $\sqrt{100x^4 + 125x^4} + 7x + \frac{1}{4^{-\frac{1}{2}}} = -4x$

(ii) $\sqrt[3]{64y^3} \times 2y + 19y + 7^2 = -3y + 1600^{\frac{1}{2}}$

If smallest root of equation (ii) is multiplied by 4/5 is equal to Z, then which among the following statement/s is/are true.

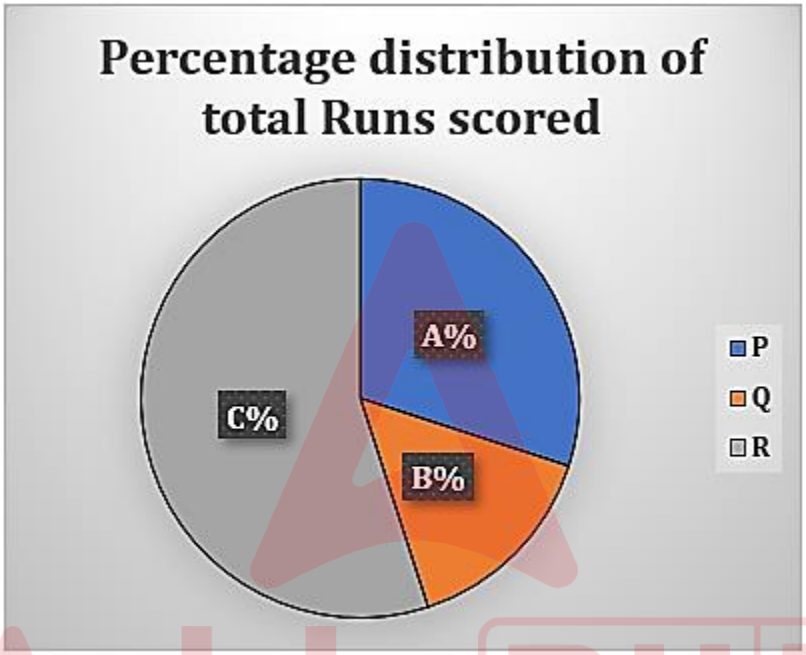
(A) $Z < -2$
(B) $\frac{2}{7} > Z \times -\frac{4}{27}$
(C) Z is less than largest root of equation (i)
(a) Only (B)
(b) Both (B) & (C)
(c) Only (C)
(d) Both (A) & (B)
(e) Only (A)

Directions (50-52): Read the following passage carefully and answer the questions given below.
P, Q and R started their journey at 8 am, 9 am & 10 am respectively and the ratio of speed of P, Q & R is x : 1.25x : 0.5x respectively. After four hours Q meets P and after meeting each other both of them started returning towards initial position.

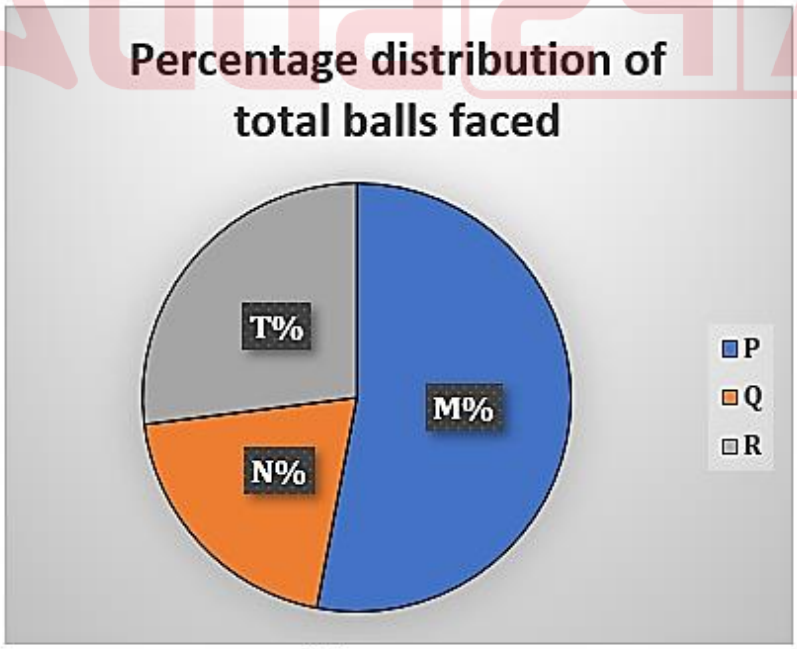
Q50. If the speed of Q is 4 km/hr, then Q is how much distance far from the starting point in five hours.
(a) 20 km
(b) 5 km
(c) 15 km
(d) 12 km
(e) 8 km

Q51. At what time Q will meet R?
(a) 2 pm
(b) 3 pm
(c) 1:20 pm
(d) 3:40 pm
(e) 2.50 pm

Directions (52-54): Read the following pie charts carefully and answer the questions given below.
Pie charts (i) shows percentage distribution of runs scored by three (P, Q & R) different batsmen in a match and pie chart (ii) shows percentage distribution of balls faced by each batsman in a match.



(i)



(ii)

Note: (I) Strike rate of P is 25.
(II) Balls faced by Q is 180 and his strike rate is $33\frac{1}{3}$.
(III) Had P faced the same number of balls Q faced, but scored same number of runs as he scored initially, then his strike rate would have been double that of Q.
(IV) Balls faced by R is half of the balls faced by P.
(V) Strike rate = $\frac{\text{Total runs scored}}{\text{Total balls faced}} \times 100$.
(VI) Central angle of runs scored by R is 198°.

Q52. Find the difference between the central angle of runs scored by P and the central angle of balls faced by Q.
(a) 36°
(b) 48°
(c) 18°
(d) 54°
(e) 12°

Q53. If P played as many balls as Q plays and Q plays as many balls as R played, then which of the following statement/s is/are correct?
(i) If Q plays 160 balls more, than he will hit a century.
(ii) The strike rate of P is greater than that of R.
(iii) Current strike rate of Q is equal to the previous strike rate of P.
(a) Only iii
(b) Both ii & iii
(c) Only ii
(d) Both i & iii
(e) Both i & ii

Q54. If R scored his runs in only 6's & 4's and he hit 25 fours, then find the number of dot balls faced by R.
(a) 175
(b) 195
(c) 155
(d) 185
(e) 165

Directions (55-57): Read the following passage carefully and answer the questions given below.
p men can do a work in q days and q women can do the same work in p days. If 20 men & 16 women can do the work together, they can complete the whole work in $53\frac{1}{3}$ days.

Q55. 20 men & 24 women started working together and they did work for 0.6x days and y number of boys did the remaining work in 0.45x days. If the whole work is completed in x days by y number of boys, then find the value of x.
(a) 28
(b) 50
(c) 45
(d) 25
(e) 40

Q56. Find the number of days taken by 15 men & 12 women together to completed the work.

(a) $71\frac{1}{9}$ days

(b) $67\frac{1}{9}$ days

(c) $79\frac{1}{9}$ days

(d) $62\frac{1}{9}$ days

(e) None of these

Q57. (z+24) girls and 10 men & 14 women together can do the same work in 16 days. If z girls worked together the same work completed in 26 days, then find the value of z.

(a) 55

(b) 80

(c) 95

(d) 100

(e) 75

Q58. X, Y and Z started a business with investment of Rs. (a-1200), Rs. (a) & Rs. (a+1800) respectively. Profit of Y is invested in a scheme which offers simple interest at the rate of 18% p.a. for five years and interest received is Rs.3600. If the total profit in the business is Rs.4800 more than the double of the profit of Y, then which of the following statement/s is/are correct.

(A) value of 'a' is multiple of 12.

(B) Z gets 37.5% of the total profit.

(C) Sum of the investment of X & Y is completely divisible of by 8.

(a) None of these

(b) Only (C)

(c) Both (C) & (B)

(d) Only (B)

(e) Both (A) & (C)

Q59. x, y, and z are three integers and sum of x & y is 61. If y is divided by x, then the quotient is 2 & the remainder is 7 and $z^a - 2$ is a largest negative integers and z >1, then which of the following values exists '$z^a - a + x$' and 'y-a'.

(a) 21

(b) 18

(c) 26

(d) 24

(e) Both (a) & (d)

Q60. Two boats P & Q are rowing in two different rivers X & Y respectively. Find the distance covered by boat Q in 15 hours downstream.

(i) Sum of speed of stream in X and Y is 12 km/hr.

(ii) Distance covered by boat Q in Z hours in downstream is 120 km more than the distance covered by boat Q in (Z+2) hours in upstream.

(iii) Boat P can cover 420 km downstream in 8 hours while boat Q can cover 120 km upstream in six hours.

(a) Both (ii) & (iii)
(b) Only (iii)
(c) Both (i) & (ii)
(d) Both (i) & (iii)
(e) None

Directions (61-63): Read the following table carefully and answer the questions given below.
Table shows the percentage distribution of poems published out of total poems & stories published starting from 2011 to till 2013. Table also shows number of poems published starting from 2011 to till 2013.

Years	Percentage of poems published out of total poems & stories published	Number of poems published
2011	X%	702
Till 2012	Y%	1640
Till 2013	Z%	1910

Note: (a) Y+X=115
(b) Z=Y-X
(c) Y+Z=95

Q61. The ratio between number of stories published in 2012 to 2016 is (Y-3) : 3Z. If the number of stories published in 2016 is 40% of the total number of poems & stories together published in 2016, then number of poems published in 2011 is what percentage more than the number of poems published in 2016?
(a) $[41X-(25Y+91)]$ %
(b) Both (a) & (e)
(c) $[0.12Y-4]$ %
(d) Both (a) & (c)
(e) $[\frac{Z}{5}-1]$%

Q62. Difference between number of stories published in 2012 and 2013.
(a) 9X+15
(b) 6Y-12
(c) 17Z-12
(d) Both (a) & (c)
(e) Both (b) & (c)

Q63. If number of poems published in 2015 was '7X+9', then number of poems published in 2015 is what percentage more than the number of poems published in 2013?

(a) $\frac{3X}{9}+4$

(b) $0.4Y-(0.2Z+3)$

(c) $\frac{Y}{4}+\frac{Z}{5}$

(d) None of these

(e) Both (b) & (a)

Directions (64-65): Read the following passage carefully and answer the questions given below.

Three people A, B & C started their journey at 9:30 am, 11:30 am & 2 pm respectively from point X t o Y. The speed of B is $\sqrt{625}$ m/sec and B reached the destination at 7:30 pm of the same day. B is fastest and C is not the slowest.

Q64. If speed of A is 25% less than speed of B, then in what time A reached the destination?

(A) 2 hours 40 min more than B.

(B) A will reached the destination at 8:10 pm.

(C) Total time taken by A and B to reaching the destination is 19 hours 40 min.

(a) Both (A) & (B)

(b) Only (B)

(c) Both (B) & (C)

(d) Only (C)

(e) Both (A) & (C)

Q65. Which of the following statement/s is/are correct?

(A) C reached the destination in 6 hours and A reached the destination in 4.5 hours.

(B) C reached the destination in 5 hours and A reached the destination in 9 hours.

(C) If distance increased by 180 km and speed of C is $1/6^{th}$ of the speed of B, then A reached the new destination at 4:20 pm.

(a) Both (B) & (C)

(b) None of these

(c) Both (A) & (B)

(d) Only (B)

(e) Only (A)

Directions (66-68): Read the following quadratic equation carefully and answer the questions given below.

(i) $x \times x - 3x - \sqrt{(4x^2)} = -6$

(ii) $y^2 - \sqrt{(81y^2)} = -4 \times 5$

(iii) $\frac{z^2\sqrt{625z^6}}{5z^3} + (4 \times 7) = 39z$

(iv) $p^2 - (3 \times 5)p = 7 \times -(8)$

Q66. Find the L.C.M. of the larger roots of x, y, z and p.
(a) 840
(b) 650
(c) 780
(d) 980
(e) 1010

Q67. Find the difference between the larger root of equation (iv) and the smaller root of equation (iii).
(a) 10.4
(b) 9.5
(c) 4.3
(d) 7.2
(e) 5.9

Q68. In which of the following equation/s the difference between larger and smaller root is one.
(a) Only (i), (ii) & (iii)
(b) Only (i), (ii) & (iv)
(c) Only (ii) & (iv)
(d) Only (ii), (iii) (iv)
(e) Only (i) & (ii)

Q69. Two mixture P and Q are in the ratio of 3:2 respectively. Mixture P contains a% of milk & b% of water and mixture Q contains d% of milk & e% of water. If mixture Q is mixed with mixture P, then the final quantity of milk becomes 23% of the total mixture. To find the final quantity of milk which statement/s is/are necessary. (If a + d =45).
(I) a-d=10
(II) Initial quantity of mixture P is 60 liters out of which 15 liters is milk.
(III) If 15 liters of the mixture is taken out from mixture P and mixed with mixture Q, then the total quantity of water in the mixture Q becomes 40 liters.
(a) Only (I) & (III)
(b) Only (II)
(c) Only (II) & (III)
(d) Only (III)
(e) Only (I)

Directions (70-72): Read the following passage carefully and answer the questions given below.
A hollow cylinder A of radius 14cm is full with water and a solid cylinder B with radius 7cm is put inside the hollow cylinder, then the remaining quantity of water is 9240 cm^3. The height of both the cylinder is same.

Q70. Find the height of the cylinder (in cm).
(a) 18
(b) 12
(c) 20
(d) 25
(e) 10

Q71. If there is a leak in cylinder B which can empty the cylinder at 0.5 cm^3/sec, then in how much time the cylinder will be emptied? (In min)

(a) $112\frac{1}{5}$ mins

(b) $112\frac{2}{3}$ mins

(c) 102 mins

(d) $102\frac{2}{5}$ mins

(e) $102\frac{2}{3}$ mins

Q72. If the radius of cylinder B is increased by 3.5 cm, then find the excessive amount of water that would have spilled from the cylinder A.

(a) 3050 cm^3
(b) 4870 cm^3
(c) 3800 cm^3
(d) 3850 cm^3
(e) 4550 cm^3

Q73. Find the difference between selling price of article Y and marked price of article X. To find the difference which statement/s is/are required.

(A) Selling price of article X is Rs.140 more than that of article Y and article X is markup by Rs.264.
(B) Discount given on article Y is Rs. 56 more than the profit earned on article X.
(C) Selling price of article Y is Rs.224 more than the cost price of article Y. Discount given on article X is 30% and profit earned on article Y is 40%.

(a) Only (A)
(b) Both (A) & (C) together
(c) Only (C)
(d) Both (B) & (C) together
(e) Both (A) & (B) together

Q74. Which of the statement/s is/are sufficient/necessary to find the ratio between speed of the boat in still water to speed of the stream.

The speed of the boat while travelling upstream is 24 km/hr. The boat can travel X km in Y hours while travelling upstream and 144 km in Y hours while travelling downstream. Time taken (in hours) by boat to travel 216 km upstream is Z hours more than that while travelling the same distance in downstream.

(A) $X - Y^3 + Z^3 > 102$
(B) Time taken by boat to cover 'Z^2' km downstream in 18 hours.

(a) Either (A) or (B)
(b) Only (C)
(c) None
(d) Either (B) & (C) together
(e) Only (B)

Directions (75-77): There is a wrong number in these series. Find the wrong number & pattern of the given series and answer the questions given below.
Series A: 24, 31.5, 46.5, 69, 98, 136.5, 181.5
Series B: 5926, 886, 166, 46, 22, 18, 14
Series C: 11, 18, 44, 107, 231, 445, 788

Q75. X, Y & Z are the wrong number of the series A, B & C respectively. Find the relation between X, Y & Z.
(a) $X > Y < Z$
(b) $X > Y > Z$
(c) $X \leq Y < Z$
(d) $X > Y \geq Z$
(e) $X = Y < Z$

Q76. If series D is following the pattern of series C. If first term of series D is 23 and P & Q being the third & sixth term respectively of series D, then find the difference between P & Q.
(a) 540
(b) 195
(c) 298
(d) 402
(e) 338

Q77. P & Q are the correct terms of series A & series B respectively. If R is equal to the square of the larger root of the equation $x^2-15x= -9^2+5^2$, then which of the following statement/s is/are correct?
(i) $Q + R = P$
(ii) $\frac{P}{3} + 15 = R - Q$
(iii) $\sqrt{R} + P = Q \times 7 - 5$
(a) Only (i) & (ii)
(b) Only (ii) & (iii)
(c) Only (i)
(d) Only (ii)
(e) Only (iii)

Directions (78-79): Read the following table carefully and answer the questions given below.
Two shops X & Y sell two (R & T) different articles and each article is marked up and then sold after giving a certain discount. Table shows the cost price, marked price and relation between 'a' & 'b' variables for both shops and the discount given by them at different times.
Note: Relationship between 'a' & 'b' variable for both shops are different.

Articles	Cost price (Rs.)	Marked price (Rs.)
R	5000 + a	12b
T	8000 + a	25b

Shops	Relation between a & b
X	a = 3b
Y	3a = 10b

Timing	Discount offered by both shops (Rs.)
1:30 pm	$\frac{a}{5}$
2:30 pm	$\frac{b}{5}$
3:30 pm	$\frac{a+b}{5}$

Q78. The profit percentage earned by shop X on selling article R at 1:30 pm is 42.5%. Find the profit percentage by the same shop on selling the article T at 2:30 pm.

(a) 125.45%
(b) 110.50%
(c) 92.33%
(d) 87.50%
(e) 115.25%

Q79. Shop Y sold article T at 3:30 pm at a profit of Rs. (2a+b-120). If difference between the price by which articles R & T were marked up by shop Y is 'C', then which of the following statement/s is/are correct?

(A) $7b < C < 3a - b + 2150$
(B) $2a+b < C < 3a - 2b + 3250$
(C) $3a - b+2000 > C > 8b + 1050$

(a) Only (A) & (C)
(b) Only (A) & (B)
(c) Only (B) & (C)
(d) Only (A)
(e) Only (B)

Q80. A man invested Rs.7500 for two years at rate of X% p.a. on compound interest and received total interest of Rs.3300. He invested Rs.4800 in scheme A, which offer simple interest for two years at the rate of ____% p.a. and he also invested Rs. _____ in scheme B, which offers simple interest for two years at the rate of 12% p.a. Total interest received from scheme A is Rs. _____ more than that from scheme B. Which of the following option/s is/are come in blank space.

(i) (X-5), 200X, 480
(ii) X, 4800, 360
(iii) 1.5X, 4000, 500
(a) None of these
(b) Only (i)
(c) Only (iii)
(d) Only (i) & (ii)
(e) Only (i) & (iii)

Directions (81-83): Read the passage and answer the following questions based on that

It has recently been discovered that many attributions of paintings to the seventeenth-century Dutch artist Rembrandt may be false. The contested paintings are not minor works, whose removal from the Rembrandt corpus would leave it relatively unaffected: they are at its very center. In her recent book, Svetlana Alpers uses these cases of disputed attribution as a point of departure for her provocative discussion of the radical distinctiveness of Rembrandt's approach to painting.

Alpers argues that Rembrandt exercised an unprecedentedly firm control over his art, his students, and the distribution of his works. Despite Gary Schwartz's brilliant documentation of Rembrandt's complicated relations with a wide circle of patrons, Alpers takes the view that Rembrandt refused to submit to the prevailing patronage system. He preferred, she claims, to sell his works on the open market and to play the entrepreneur. At a time when Dutch artists were organizing into professional brotherhoods and academies, Rembrandt **stood up**. In fact, Alpers portrait of Rembrandt shows virtually every aspect of his art pervaded by economic motives. Indeed, so complete was Rembrandt's involvement with the market, she argues, that he even presented himself as commodity, viewing his studio's products as extensions of himself, sent out into the world to earn money. Alpers asserts that Rembrandt's enterprise is found not just in his paintings, but in his refusal to limit his enterprise to those paintings he actually painted.

Q81. Why is the work of seventeenth-century Dutch artist Rembrandt a matter of scrutiny?

(a) The authenticity of major portion of Rembrandt work is being disputed and believed to be counterfeits.

(b) The inconsistent characteristics of Rembrandt arts have raised series of questions over their originality.

(c) The huge age gap between the art, when arranged chronologically, has questioned the validity the artwork of being the original Rembrandt.

(d) Only (b) and (c)

(e) None of these

Q82. Which of the following is /are the argument(s) given by Svetlana Alpers about Rembrandt?

(a) Alpers had a firm belief in the originality of each Rembrandt artwork.

(b) Alpers claimed that Rembrandt had never shied away to concede to the contemporary patronage system

(c) Alpers argued that Rembrandt's art was largely determined by his view of the art's marketplace.

(d) Only (a) and (b)

(e) Only (b) and (c)

Q83. In the given passage a phrasal verb is given in bold, which may or may not be correct to its position. Choose the alternative that is most appropriate with the context of the statement. If the highlighted phrasal verb is correctly placed, choose 'no replacement is needed' as your answer choice.

(a) stood away

(b) stood apart

(c) stood by

(d) stood in

(e) no replacement is needed

Directions (84-88): In each of the given question two blanks are given and with respect to that two columns each containing three words are provided. Choose the correct set of words from the given options that can correctly fit into those blanks.

Q84. By this law a tenant-farmer is able to _____ his farm, that is to say, he holds his lease in _____.

COLUMN I

(i) perpetuate

(ii)bequeath

(iii)legitimize

COLUMN II

(iv) transience

(v) aberration

(vi)perpetuity

(a) (i) and (v)

(b) (ii) and (vi)

(c) (i) and (iv)

(d) (iii) and (vi)

(e) (iii) and (v)

Q85. Since Trump lost to Biden in November, he, and his allies have spent more than two months _____ widespread voter fraud despite repeated failures to _____ their claim.

COLUMN I

(i) corroborating

(ii)retaining

(iii)alleging

COLUMN II

(iv) substantiate

(v) culminate

(vi) abate

(a) (i) and (v)

(b)(ii) and (vi)

(c) (i) and (iii)

(d) (iii) and (vi)

(e) (iii) and (iv)

Q86. Personally, Daniel was reserved and somewhat _____, preserving in his habits a strange mixture of _____ and monk.

COLUMN I

(i) austere

(ii)treacherous

(iii)taut

COLUMN II
(iv)bourgeois
(v) eerie
(vi)perverse
(a) (i) and (v)
(b) (ii) and (vi)
(c) (i) and (iv)
(d) (iii) and (v)
(e) (iii) and (iv)

Q87. The indications of will were _____ obeyed, or translated by the worshippers as their own _____ or interest indicated.
COLUMN I
(i) judiciously
(ii)implicitly
(iii) succinctly
COLUMN II
(iv) convenience
(v) caprice
(vi)accretion
(a) (i) and (vi)
(b) (ii) and (v)
(c) (i) and (iv)
(d) (iii) and (v)
(e) (ii) and (iv)

Q88. When Alexander invaded the interior of the Eastern world, which had _____ remained _____, he came as the champion of Hellenism.
COLUMN I
(i) hitherto
(ii)whereby
(iii)elsewhere
COLUMN II
(iv) fallible
(v) exercisable
(vi)inviolable
(a) (i) and (vi)
(b) (ii) and (v)
(c) (i) and (iv)
(d) (iii) and (v)
(e) (ii) and (iv)

Directions (89-95): Read the given passage and answer the questions based on that

Marketing is all about connecting with the customer. And in today's marketplace, customers are changing. Their needs, demands, wants, attitudes, mindsets, behavior, habits, consumption are changing. Especially given the rapid change not only in technological development and tools, but also their adoption into normal everyday life, marketing is — or needs to — change along with the times. It has been seen that the traditional consumers are more predictable a creature of habit. The new ones are more socially aware, and thus often more responsive to socially responsible consumption of goods and services. Having more information at their fingertips, many customers are much more judicious giving them more confidence — and also less inclined to blindly consume spoon-fed information from brands and companies. This means they are the new _____ for growth.

Millennials may seem like an overused term nowadays, but there is no denying the importance these customers have on the way companies do business. Keeping this in mind, brands should be more conscious and wiser in the way they interact with their clients and customers. Part of this is developing marketing that does not lose touch with customers; marketing that the customers of today can relate to. Companies' survival will thus be contingent on better understanding this new crop of customers, as well as how the current environment — one that is largely digital in nature — factors into how these customers think, behave and consume. And thus, Marketing 4.0 was born.

But you cannot talk about Marketing 4.0 without tackling what came before. Marketing 1.0 was largely productional based and the most basic, born out of the manufacturing boom in the 1950's. But the crisis in the 70's and 80's created Marketing 2.0, which is also called relational marketing. Here, consumers started becoming more smarter in their spending (given the economic hardship prevalent at that time), meaning companies needed to find things customers could relate to in order to prompt a positive, beneficial response. Marketing departments now classified customers through basic profiling, and companies were beginning to understand the importance and impact of customer loyalty, engagement, and advocacy. The evolution of the old approach gave birth to Marketing 3.0, where the objective was to meet both the **rational** and emotional needs of customers. It's also called the "appeal to emotion," or "emotional marketing." As opposed to the two previous approaches where the market was seen as product driven (Marketing 1.0), mass market with smarter customers (Marketing 2.0), Marketing 3.0 saw customers as people, instead of just segments.

Q89. How new generation consumers are different from traditional ones?

(a) The current generation of consumers is less predictable in comparison to the traditional ones.

(b) The new consumers are more mindful and sensible than the later ones

(c) The new consumers are more informed and discerned comparative to their previous ones

(d) Only (b) and (c)

(e) All of these

Q90. How brands should interact with the new aged customers?

(a) Brands should position their marketing strategies according to new-age customers' evolved needs

(b) Brands should recognize the consumer behavior and their digital presence

(c) Brands should be decisive and aware of their interaction and behavior with their consumers.

(d) Only (a) and (c)

(e) All of these

Q91. Which of the following options is FALSE with respect to the data given in the passage?
(a) Many consumers now demonstrate marked differences in their shopping style from the traditional customer.
(b) Marketing 1.0 was based and revolved around the concept of product and production
(c) Marketing 1.0 was born before the onset of 1950 manufacturing revolution.
(d) Marketing 2.0 was the service that capitalized through understanding the behavior and nature of users to which the products were selling to
(e) None of these

Q92. What hardships marketing 2.0 had brought to the brands?
(a) Companies were given challenges in terms of a more aware and discerned market base.
(b) In order to sustain, companies were forced to synchronize their products according to the market requirement
(c) The nationalization of various private entities had created a cloud of uncertainty for the small companies.
(d) only (a) and (b)
(e) All of these

Q93. Which of the following words will fit into the blank given in the passage?
(a) stumper
(b) yielder
(c) grinder
(d) drivers
(e) collectors

Q94. Why had marketing 2.0 seen a transition in customer behavior?
(a) In 90's Indian market started flooding with indigenous goods which had also attracted attention of the local consumers
(b) Adverse economy of that time had sparked a sense of monitorial awareness among people
(c) Newly introduced concept of globalization had triggered curiosity among people to try different things.
(d) The era of internet has shortened the world thus letting consumers to have many alternate options.
(e) None of these

Q95. What was/were the characteristic(s) of Marketing 3.0?
(A) This focuses on the customer as a human being in its entirety
(B) This marketing strategy had imbibed emotion driven approach into the other preexisting characteristics of previous marketing strategies.
(C) This strategy customized products for every segments thus make a ground level change to the previous marketing strategies.
(a) Only (A)
(b) Only (B)
(c) Only (C)
(d) Only (A) and (B)
(e) Only (B) and (C)

Q96. Which of the following is the synonym of 'rational' as is highlighted in the passage?
(a) analytical
(b) lethargically
(c) cynical
(d) abysmal
(e) None of these

Directions (97-100): In each question a blank and five highlighted words are given, which thereby are needed to be rearranged. Choose the correct order of rearrangement and the correct word that will fit into the blank by satisfying the intended meaning.

Q97. Cooperative banking in India was **initially (A)**started as a movement to **credit (B)**issues of rural **cooperative (C)**and the Cooperative Societies Act, 1904 gave a _____ shape to the **handle (D)**movement.
(a) CDAB, repressive
(b) ADBC, defined
(c) ACDB, fugitive
(d) BDCA, gradual
(e) No rearrangement needed, legitimize

Q98. Even when a telecommuting employee is _____ to **provides** (A) to fixed work hours, the arrangement still **significant** (B)a/an **socializing** (C)savings in time spent dressing for work, commuting, and **adhere** (D)with other employees.
(a) DBCA, exercised
(b) ACDB, adapted
(c) BCDA, forced
(d) DABC, expected
(e) No rearrangement needed, flourished

Q99. Some fashion **stickler** (A)still _____ white in winter, so if you're not a/an **traditionalists** (B)for style rules, **instead** (C)winter white, cream or ivory tops **consider (D)**.
(a) BADC, eschew
(b) No rearrangement needed, glued
(c) ACBD, provoked
(d) CDBA, embraced
(e) BCDA, shunned

Q100. After hundred and fifty years of foreign war and civil _____, at **ardently** (A)when order and unity were **aspirations** (B)desired, an absolute monarchy had appeared the only power **period** (C)of realizing such **capable** (D).
(a) No rearrangement needed, conclusion
(b) BDCA, fragility
(c) ABDC, revolution
(d) ACBD, discern
(e) CADB, discord

Directions (101-104): In each question a paragraph is given ad based on that paragraph a question is asked. Choose the correct answer from the given options that best describes the passage.

Q101. Colors bounced around in her head. They mixed and threaded themselves together. Even colors that had no business being together. They were all one, yet distinctly separate at the same time. Her mind was forming _____vision on her head.
(a) delusional
(b) transfusion
(c) kaleidoscopic
(d) emmetropic
(e) astigmatic

Q102. The wave crashed and hit the sandcastle head-on. The sandcastle began to melt under the waves force and as the wave receded, half the sandcastle was gone. The next wave hit, not quite as strong, but still managed to cover the remains of the sandcastle and take more of it away. The third wave, a big one, crashed over the sandcastle completely covering and engulfing it. When it receded, there was no trace the sandcastle ever existed and hours of hard work disappeared forever. The above-mentioned event symbolizes the _____ nature of things.
(a) illusive
(b) ephemeral
(c) obtrusive
(d) bizarre
(e) boundless

Q103. She nervously peered over the edge. She understood in her mind that the view was supposed to be beautiful, but all she felt was fear. There had always been something about heights that disturbed her, and now she could feel the full force of this unease. She reluctantly crept a little closer with the encouragement of her friends as the fear continued to build. The girl seemed to have _____.
(a) microphobia
(b) entomophobia
(c) androphobia
(d) technophobia
(e) acrophobia

Q104. The headphones were on. They had been utilized on purpose. She could hear her mom yelling in the background, but couldn't make out exactly what the yelling was about. That was exactly why she had put them on. She knew her mom would enter her room at any minute, and she could pretend that she hadn't heard any of the previous yelling. The girl decided to _____ on her mother's order.
(a) Play dumb
(b) see eye to eye
(c) cut corners
(d) bite the bullet
(e) call it a day

Directions (105-109): Read the given passage and answer the questions based on that

Online has become the "New Normal" in the world hard hit by the Covid pandemic where every part of the life including work, education, and play has been impacted in some manner. In this new normal, online work and education have not only saved many jobs but also helped in continuous study progress of millions across the world.

Online learning has proved to be a paradigm-shifting revolution in the field of education. **It has not only improved the education(A)/ and learning process during the Covid-19 period, (B)/yet has also helped in introduction of numerous(C)/ fresh concepts and inventions in the field (D)**. It has significantly improved the standard of education and has also helped in skills development in rural and isolated regions. Additionally, it has guaranteed that getting quality education is affordable, **_____(II)** and easier to access. But now in the post-Covid era, many are wondering what to pick -- online or offline studies -- or balance the both.

The blended learning can overcome one of the biggest obstacles in the India's inaccessible education system. India's higher education system is the third-largest after China and the US, but access to higher education, especially **equitable** higher education, remains difficult for reasons ranging from unaffordability to lack of opportunity. The blended learning can provide quick solution to this problem. In terms of benefits, students not only saves course fees, but also on numerous other benefits like physical relocation and other **(I)_____**.

Q105. In the given passage, a word is omitted and replaced by a blank and (I) written before it. Choose the word from the given options that can logically and grammatically fit into the blank (I) and also the two sentences that are given in this question.

(A) The dark sky stretched far _____, no sign of morning yet visible

(B) The system was powered by _____ transmission of 3500 volts dc with power taken from the public electric service.

(a) overhaul
(b) overhead
(c) impediment
(d) accede
(e) undercut

Q106. In the given passage a sentence is given in bold which is divided into four parts. Choose the segment that has the error, if any.

(a) A
(b) B
(c) C
(d) D
(e) No Error

Q107. Which of the following words can fit into the blank numbered (II) given in the passage?

(a) rational
(b) reliable
(c) convenience
(d) prudence
(e) analytical

Q108. How did online learning change the dynamic of education system in the covid hit world?
(a) It had penetrated even to the furthest and most obscure region of the country
(b) It had imparted quality education in an affordable rate
(c) Many debutant concepts and learnings are being introduced through online education mode.
(d) Only (a) and (b)
(e) All of these

Q109. Which of the following will be the antonym of 'equitable' as is highlighted in the passage?
(a) erratic
(b) judicious
(c) jubilant
(d) sporadic
(e) None of these

Directions (110-115): Read the given passage and answer the questions based on that
What it means to "explain" something in science often comes down to the application of mathematics. Some thinkers hold that mathematics is a kind of language--a systematic contrivance of signs, the criteria for the authority of which are internal coherence, elegance, and depth. The application of such a highly artificial system to the physical world, they claim, results in the creation of a kind of statement about the world. Accordingly, what matters in the sciences is finding a mathematical concept that attempts, as other language does, to describe the functioning of some aspect of the world.
At the center of the issue of scientific knowledge can thus be found questions about the relationship between language and what it refers to. A discussion about the role played by language in the pursuit of knowledge has been going on among linguists for several decades. The debate is on whether language corresponds in some essential way to objects and behaviors, making knowledge a solid and reliable commodity; or, on the other hand, whether the relationship between language and things is purely a matter of agreed-upon conventions, making knowledge **tenuous**, relative, and inexact.
Lately the latter theory has been gaining wider acceptance. According to linguists who support this theory, the way language is used varies depending upon changes in accepted practices and theories among those who work in particular discipline. These linguists argue that, in the pursuit of knowledge, a statement is true only when there are no promising alternatives that might lead one to question it. Certainly, this characterization would seem to be applicable to the sciences. In science, a mathematical statement may be taken to account for every aspect of a phenomenon it is applied to, but some would argue, there is nothing inherent in mathematical language. Under this view, acceptance of a mathematical statement by the scientific community--by virtue of the statement's predictive power or methodological efficiency--transforms what is basically an analogy or metaphor into an explanation of the physical process in question, to be held as true until another, more compelling analogy takes its place.

Q110. Why mathematics is considered as a language by some experts?
(a) Similar to a language, mathematics uses syntax and sign within a discipline
(b) Mathematics can accurately describe real-world problems and abstract concepts.
(c) Mathematics is widely used subject, universal to everyone.
(d) Only (a) and (b)
(e) All of these

Q111. What is the reason of contention among the linguists?
(a) The debate is centered around language's reachability in providing a reliable communication over being just an agreed-upon convention.
(b) The discussion is over whether language is an effective medium of connecting all section of society irrespective financial status.
(c) The debate is on giving mathematics the universal language status.
(d) The discussion is on creating a single language effective in all countries.
(e) None of these

Q112. Which of the following can be best inferred from the third paragraph of the given passage?
(a) Mathematics isn't so much a precise statement, as an imprecise metaphor or analogy that will work until a better one comes along.
(b) Some linguists argue that the intrinsic nature of mathematics does not corresponds the conclusive idea of language.
(c) Mathematics lacks the syntax and logic that a general language hold.
(d) only (a) and (b)
(e) All of these

Q113. Which of the following is the main idea of the passage?
(a) Claiming mathematics a language is an obtrusive idea.
(b) The fundamental of mathematics is in complete in line with the concept of language
(c) Though being argued, perceiving mathematics as a language cannot be ruled out.
(d) Only (a) and (b)
(e) Only (b) and (c)

Q114. Which of the following can clearly justifies the tone of the passage?
(a) inquisitive
(b) ecstatic
(c) encouraging
(d) assertive
(e) cooperative

Q115. Which of the following is the synonym of 'tenuous' as highlighted in the passage?
(a) insubstantial
(b) rigid
(c) foisting
(d) vitriolic
(e) None of these

Solutions

S1. Ans.(a)

Sol.

Designation	Persons
CEO	N
MD	S, X
DGM	U, R, V
AGM	P, T, Q, W
Manager	A, L, M, Z, Y
Clerk	B, D, G, H, E, O

Department	Persons	Leader
HR	L, B, D, G, H	N
Marketing	R, V, P, Q, T, W, Y, Z	S
Legal	U, A, E, O,M	X

S2. Ans.(c)

Sol.

Designation	Persons
CEO	N
MD	S, X
DGM	U, R, V
AGM	P, T, Q, W
Manager	A, L, M, Z, Y
Clerk	B, D, G, H, E, O

Department	Persons	Leader
HR	L, B, D, G, H	N
Marketing	R, V, P, Q, T, W, Y, Z	S
Legal	U, A, E, O,M	X

S3. Ans.(b)

Sol.

Designation	Persons
CEO	N
MD	S, X
DGM	U, R, V
AGM	P, T, Q, W
Manager	A, L, M, Z, Y
Clerk	B, D, G, H, E, O

Department	Persons	Leader
HR	L, B, D, G, H	N
Marketing	R, V, P, Q, T, W, Y, Z	S
Legal	U, A, E, O,M	X

S4. Ans.(e)

Sol.

Designation	Persons
CEO	N
MD	S, X
DGM	U, R, V
AGM	P, T, Q, W
Manager	A, L, M, Z, Y
Clerk	B, D, G, H, E, O

Department	Persons	Leader
HR	L, B, D, G, H	N
Marketing	R, V, P, Q, T, W, Y, Z	S
Legal	U, A, E, O,M	X

S5. Ans.(e)

Sol.

Designation	Persons
CEO	N
MD	S, X
DGM	U, R, V
AGM	P, T, Q, W
Manager	A, L, M, Z, Y
Clerk	B, D, G, H, E, O

Department	Persons	Leader
HR	L, B, D, G, H	N
Marketing	R, V, P, Q, T, W, Y, Z	S
Legal	U, A, E, O,M	X

S6. Ans.(a)

Sol.

Logic:

1. Number of letters in the word- 2-!

3 - $

4 - ^

5 - &

6 - %

2. 1st letter of the word – If vowel use @ and is consonant then use #

3. Last letter of the word – L - * , E - + , S - ?

S7. Ans.(c)
Sol.
Logic:
1. Number of letters in the word- 2-!
3 - $
4 - ^
5 - &
6 - %

2. 1st letter of the word – If vowel use @ and is consonant then use #

3. Last letter of the word – L - * , E - + , S - ?

S8. Ans.(c)
Sol.
Logic:
1. Number of letters in the word- 2-!
3 - $
4 - ^
5 - &
6 - %

2. 1st letter of the word – If vowel use @ and is consonant then use #

3. Last letter of the word – L - * , E - + , S - ?

S9. Ans.(c)
Sol.
Logic:
1. Number of letters in the word- 2-!
3 - $
4 - ^
5 - &
6 - %

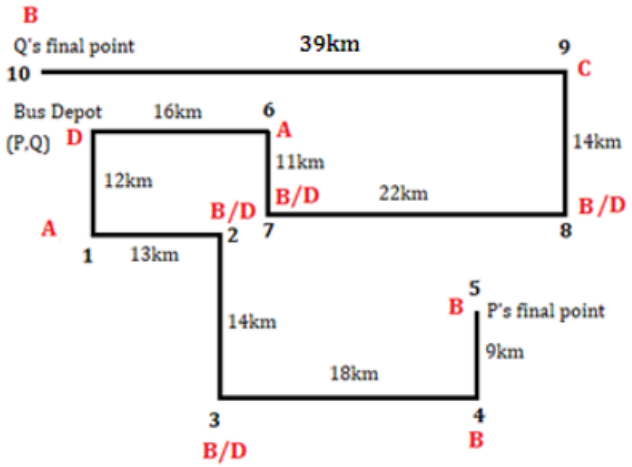
2. 1st letter of the word – If vowel use @ and is consonant then use #

3. Last letter of the word – L - * , E - + , S - ?

S10. Ans.(b)
Sol. Statement II is the cause and Statement, I is its effect as after a landslide victory of TMC, workers has started celebration and if there is celebration of winning by one party there will be some conflict with opposition.

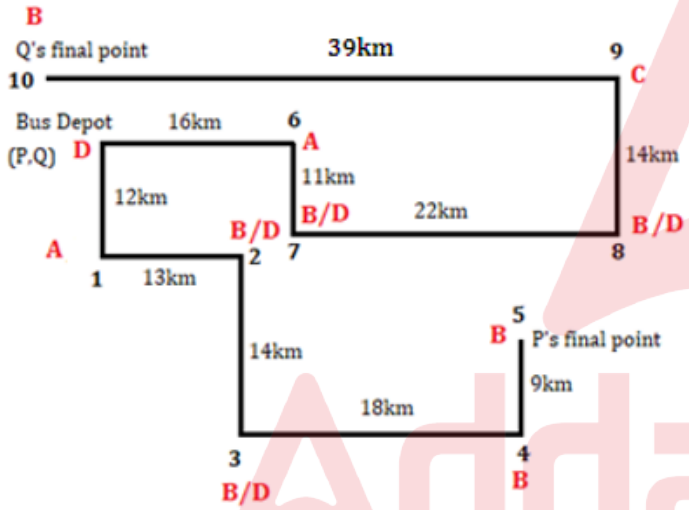
S11. Ans.(c)
Sol. Statement I and II nullifies the news of win by TMS as vote shared has been increased for BJP compared to last year and one of the hottest seats has won by BJP.

S12. Ans.(c)
Sol.

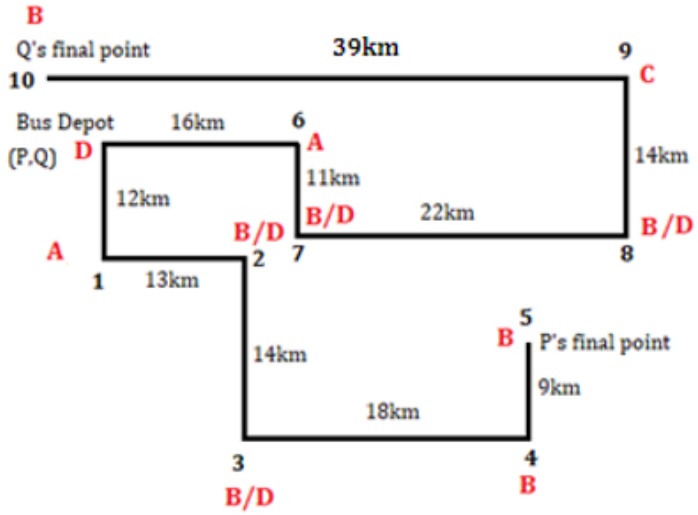


Distance given in all option is even while in option (c) it's odd

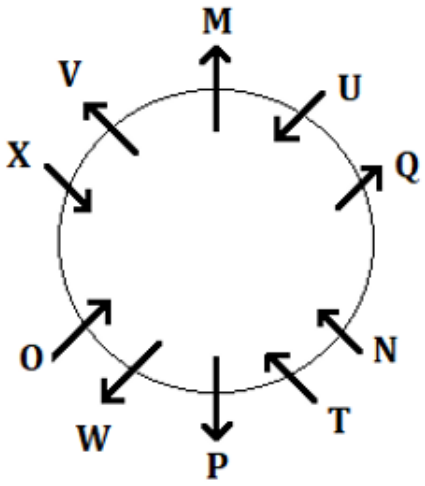
S13. Ans.(b)
Sol.



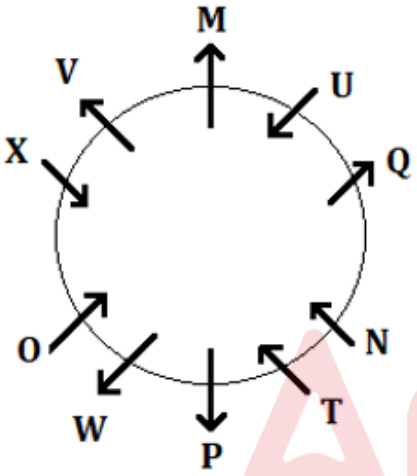
S14. Ans.(b)
Sol.



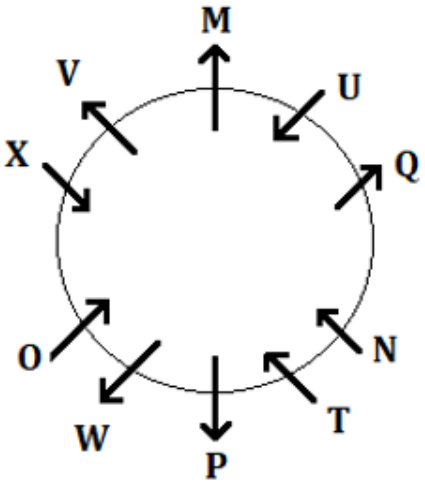
S15. Ans.(c)
Sol.



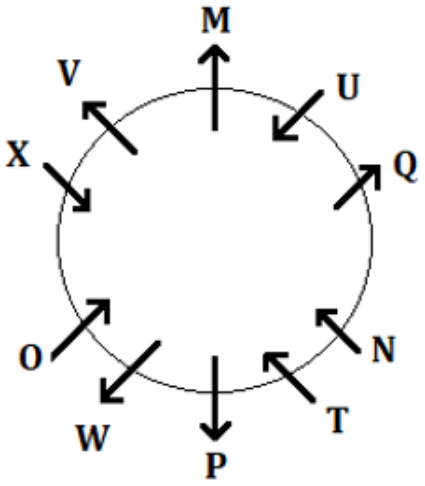
S16. Ans.(a)
Sol.



S17. Ans.(d)
Sol.



S18. Ans.(d)
Sol.



S19. Ans.(e)
Sol. I, II and III can be the reason of the happiness as the rain has an impact on wheat crop up to a large extent and it will definitely be the essential resource of good wheat crop yield. IV can't be reason as we don't have enough information regarding the occupation of states and also their crop productivity.

S20. Ans.(b)
Sol. Only III can be assumed from the given statement as it has been stated in the statement that state government is asked to ensure the availability of bed and medicine which clearly indicates that its treatment is available. But I can't be assumed as nothing is given about the cause of swine flu and II is completely false for the given statement.

S21. Ans.(b)
Sol.

State	Persons- Age
Assam	Q-32, X-18
Manipur	S-64, V-61, T-51, W-54
Tripura	R-29, P-37, U-35

S22. Ans.(d)
Sol.

State	Persons- Age
Assam	Q-32, X-18
Manipur	S-64, V-61, T-51, W-54
Tripura	R-29, P-37, U-35

S23. Ans.(b)
Sol.

State	Persons- Age
Assam	Q-32, X-18
Manipur	S-64, V-61, T-51, W-54
Tripura	R-29, P-37, U-35

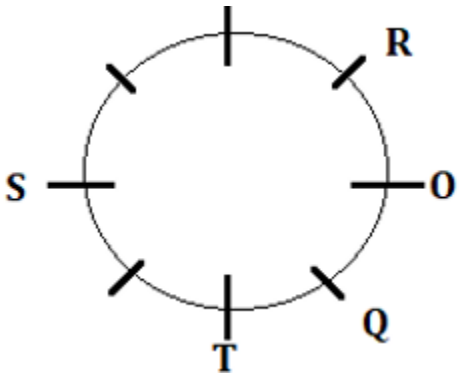
S24. Ans.(c)

Sol.

State	Persons- Age
Assam	Q-32, X-18
Manipur	S-64, V-61, T-51, W-54
Tripura	R-29, P-37, U-35

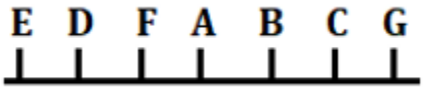
S25. Ans.(b)

Sol.



S26. Ans.(e)

Sol. By combining the both we get that F sits exactly between B and E.



S27. Ans.(b)

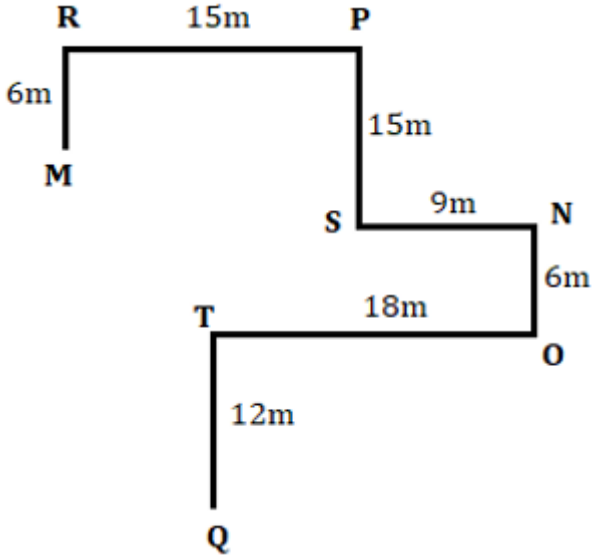
Sol. From I. Can't be determined.

From II. T is the 3rd tallest.

Persons
S
U
T
R
V
Q

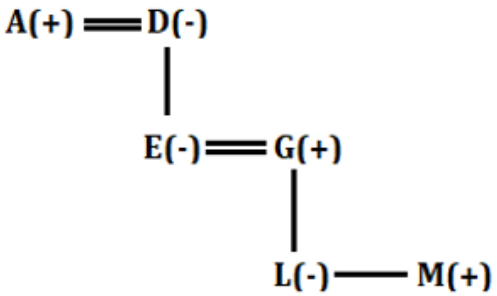
S28. Ans.(e)

Sol. By combining the both I and II we get that Ball R is in north-west of Ball O.



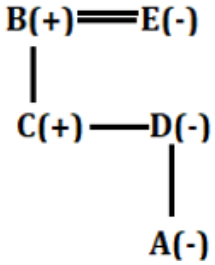
S29. Ans.(c)

Sol.



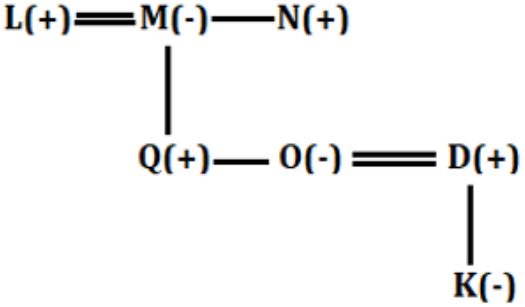
S30. Ans.(e)

Sol.

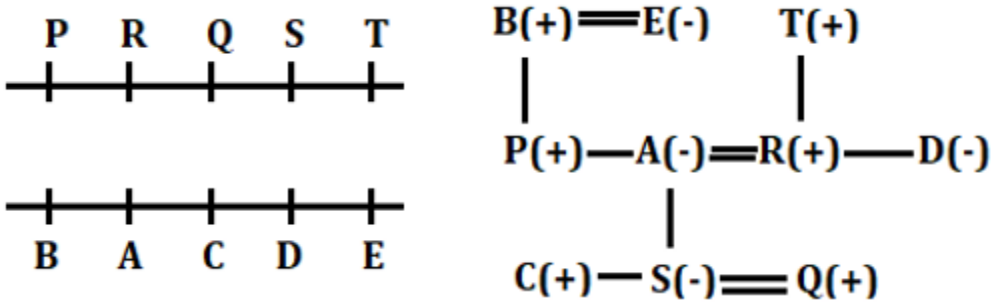


S31. Ans.(d)

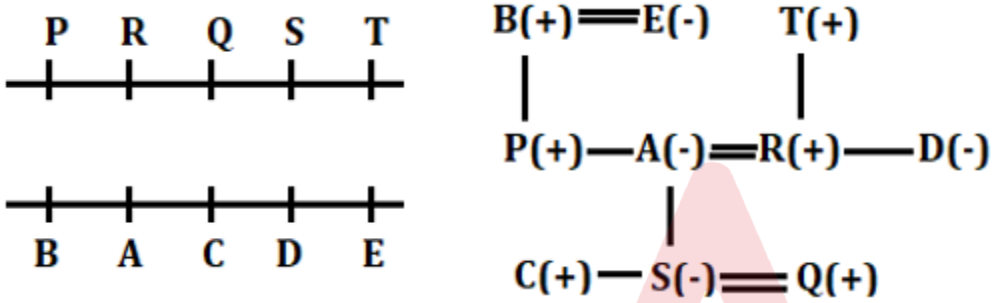
Sol.



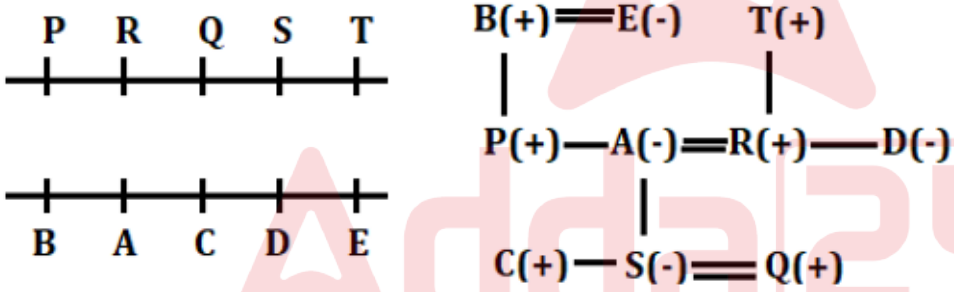
S32. Ans.(c)
Sol.



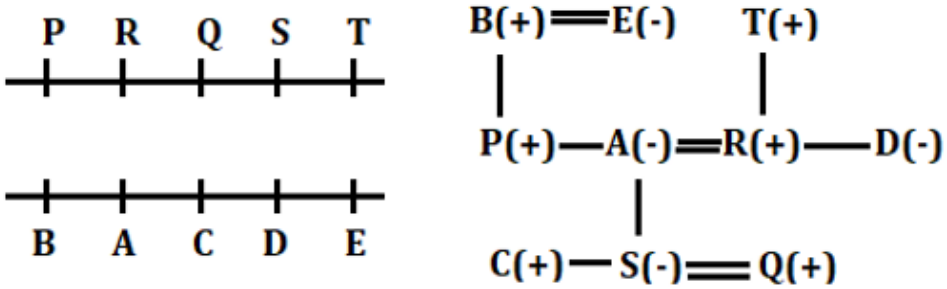
S33. Ans.(d)
Sol.



S34. Ans.(b)
Sol.



S35. Ans.(b)
Sol.



S36. Ans.(a)
Sol. I can be inferred from the given statement as only by having those features, the App can provide the information of denomination of currency to the visually impaired people. II can also be inferred as this technology is used in the app. III cannot be inferred as the statement states that the app has been developed by the IIT, Punjab but not about people of Punjab.

S37. Ans.(c)
Sol. Only I and III follows as it is clear from the statement that one sided inquiry is not a trusted one by the public so I can be assumed and also Supreme Court's decision is a matter of public trust so it should not be taken one sided so III also follows. II cannot be assumed as defamation of Supreme court is against the law and even broken public trust may not lead to defamation.

S38. Ans.(b)
Sol.

Floor	Persons	Languages
9	F	Hindi
8	A	Gujrati
7	I	Marathi
6	C	Bengali
5	E	Punjabi
4	G	Malayalam
3	B	Tamil
2	H	Kannad
1	D	Telugu

S39. Ans.(a)
Sol.

Floor	Persons	Languages
9	F	Hindi
8	A	Gujrati
7	I	Marathi
6	C	Bengali
5	E	Punjabi
4	G	Malayalam
3	B	Tamil
2	H	Kannad
1	D	Telugu

S40. Ans.(d)
Sol. Except A all of them lives on prime numbered floor

S41. Ans.(b)
Sol.

Floor	Persons	Languages
9	F	Hindi
8	A	Gujrati
7	I	Marathi
6	C	Bengali
5	E	Punjabi
4	G	Malayalam
3	B	Tamil
2	H	Kannad
1	D	Telugu

S42. Ans.(c)
Sol.

Floor	Persons	Languages
9	F	Hindi
8	A	Gujrati
7	I	Marathi
6	C	Bengali
5	E	Punjabi
4	G	Malayalam
3	B	Tamil
2	H	Kannad
1	D	Telugu

S43. Ans.(c)
Sol.
I. D % U (True)
II. N % G (False)
III. M © B (True)

S44. Ans.(b)
Sol.
I. 35 © 32 (False)
II. 53 $ 41 (True)
III. 41 $ 29 (False)

S45. Ans.(e)
Sol.
I. O $ Q (True)
II. P % G (False)
III. H © L (False)

S46. Ans.(d)
Sol.
ATQ,

$$\frac{22}{7} \times r \times r \times (r+12) = N \times 11 \times r \times r \times \frac{r}{35}$$

$$10r + 120 = Nr$$

$$10 + \frac{120}{r} = N$$

From (I)
N= 6

$$10 + \frac{120}{r} = 6$$

$$-4 = \frac{120}{r}$$

$r = -30$ cm
R can never be negative
So, I does not follow
From (II)
N= 34
$10 + \frac{120}{r} = 34$
$24 = \frac{120}{r}$
r =5 cm
So, II follows
From (III)
N= 25
$10 + \frac{120}{r} = 25$
$15 = \frac{120}{r}$
r =8 cm
So, III follows
From (IV)
N= 19
$10 + \frac{120}{r} = 19$
$9 = \frac{120}{r}$
$r = \frac{40}{3}$ cm
As, r is an integer
So, IV is not follow

S47. Ans.(b)
Sol.

Let present age of P, Q & R is p, q, & r respectively.
From (i)
$2p = r + 12$
From (ii)
$p + 6 = \frac{2}{3}r + \frac{1}{5}q$
From (iii)
Let the age of Q's daughter be a
p = a + 12
q = a + 18
$q - p = 6$
$q = p + 6$
From (ii) & (iii) together
$q = \frac{2}{3}r + \frac{1}{5}q$
$\frac{4}{5}q = \frac{2}{3}r$
$\frac{q}{r} = \frac{5}{6}$
So, R is always elder than Q.

S48. Ans.(e)

Sol.

Cost price = Rs. A

Marked price = $A + \frac{AB}{100}$

Selling price = $\left(A + \frac{AB}{100}\right) \times \frac{3}{4}$

ATQ,

$\left(A + \frac{AB}{100}\right) \times \frac{3}{4} = A + B + 20 \quad \ldots..(i)$

And

2nd condition

Marked price = $A + \frac{A}{100}(B + 5)$

Selling price = $\left(A + \frac{B}{100}(B + 5)\right) \times \frac{3}{4}$

ATQ,

$\left(A + \frac{A}{100}(B + 5)\right) \times \frac{3}{4} = A + B + 65 \ldots (ii)$

From (i) & (ii)

$\frac{3}{4} \times \frac{5A}{100} = 45$

$A = Rs.\ 1200$

A value put in (i)

$\left(1200 + \frac{1200B}{100}\right) C \frac{3}{4} = 1200 + B + 20$

$\frac{(1200 + 12B)3}{4} = 1220 + B$

$3600 + 36B = 4880 + 4B$

$B = 40$

OR

There is a difference of Rs 45 in the profits because 5% extra markup is done in the second case.

So, $A \times \frac{1}{20} \times \frac{3}{4} = 45$

A = Rs 1200

& B = Rs 40

For, Statement (a)

put A = 1200

$\frac{1200}{8} = 4B$

$\frac{150}{4} = B$

but B = 40

So, statement (a) is false

For, statement (b)

Put B = 40

29.5 × 40 + 20 = A

1180 + 20 = A

A = 1200

hence justified

For, statement (d)
put A = 1200
$1.2 \times 1200 = 36B$
$\frac{1440}{36} = B$
B = 40
hence justified

S49. Ans.(a)
Sol.

(i) $\sqrt{100x^4 + 125x^4} + 7x + \frac{1}{4^{-\frac{1}{2}}} = -4x$

$15x^2 + 7x + 2 = -4x$
$15x^2 + 11x + 2 = 0$
$15x^2 + 5x + 6x + 2 = 0$
$5x(3x + 1) + 2(3x + 1) = 0$
$(5x + 2)(3x + 1) = 0$
$x = -\frac{2}{5}, -\frac{1}{3}$

(ii) $\sqrt[3]{64y^3} \times 2y + 19y + 7^2 = -3y + 1600^{\frac{1}{2}}$
$4y \times 2y + 19y + 49 = -3y + 40$
$8y^2 + 22y + 9 = 0$
$8y^2 + 18y + 4y + 9 = 0$
$2y(4y + 9) + 1(4y + 9) = 0$
$(2y + 1)(4y + 9) = 0$
$y = -\frac{1}{2}, -\frac{9}{4}$

Smallest root of equation (ii) $= -\frac{9}{4}$

$Z = -\frac{9}{4} \times \frac{4}{5}$
$-\frac{9}{5} = -1.8$
From (A)
$Z < -2$
$-1.8 < -2$
Statement (A) is false.
From (B)
$\frac{2}{7} > Z \times -\frac{4}{27}$
$\frac{2}{7} > -1.8 \times -\frac{4}{27}$
$\frac{2}{7} > \frac{2}{15}$
Statement (B) is true.

From (C)

Z is greater than largest root of equation (i)

largest root of equation (i) = $-\frac{1}{3}$

Z = −1.8

Statement (C) is false.

S50. Ans.(d)

Sol.

Let speed of P = x km/hr

Speed of Q = $\frac{5}{4}$x km/hr

Speed of R= $\frac{1}{2}x$ km/hr

Distance covered by Q in four hours = $\frac{5x}{4} \times 4 = 5x\ km$

Distance travelled by P in between 8 am to 1 pm = x × 5 = 5x

Q meets P at 1 pm

Distance covered by R in between 10am to 1pm = $\frac{1}{2}x \times 3 = \frac{3x}{2}\ km$

Distance covered by Q in four hours = $\frac{5x}{4} \times 4 = 5x\ km$

Then Q returned and distance covered by Q in one hour = $1\times \frac{5x}{4} = \frac{5x}{4}$ km

Distance = $5x - \frac{5x}{4} = \frac{15x}{4}$

Speed of Q

$\frac{5x}{4} = 4$

$x = \frac{16}{5}$ km/hr

Required distance = $\frac{15}{4} \times \frac{16}{5} = 12\ km$

Quick Approach

Q travelled for 5 hrs in which he goes 4 hrs forward and 1 hr backwards. So resultant displacement = 4× 3 = 12 km

S51. Ans.(b)

Sol.

Let speed of P = x km/hr

Speed of Q = $\frac{5}{4}$x km/hr

Speed of R= $\frac{1}{2}x$ km/hr

Distance covered by Q in four hours = $\frac{5x}{4} \times 4 = 5x\ km$

Distance travelled by P in between 8 am to 1 pm = x × 5 = 5x

Q meets P at 1 pm

Distance covered by R in between 10am to 1pm = $\frac{1}{2}x \times 3 = \frac{3x}{2}\ km$

As, after 1 pm Q is returning back
so, now Q and R is travelling in the opposite direction
Distance between Q & R = $5x - \frac{3x}{2} = \frac{7x}{2}$
Required time = $\frac{\frac{7x}{2}}{\frac{5x}{4}+\frac{x}{2}} = \frac{\frac{7x}{2}}{\frac{7x}{4}} = 2hr.$
1pm+2 hours = 3 pm

S52. Ans.(a)
Sol.
Balls faced by Q = 180
Let runs scored by Q be 'q'
$\frac{1}{3} = \frac{q}{180}$
$q = 60$
So, runs scored by Q = 60
Had P faced the same number of balls Q faced, but scored same number of runs he scored initially, then his strike rate would have been double that of Q.
Strike rate of P = $33\frac{1}{3} \times 2 = \frac{200}{3}$
Balls faced by P =180
Let runs scored by P be 'p'
$\frac{2}{3} = \frac{p}{180}$
$p = 120$
So, runs scored by P = 120
Original strike rate of P = 25
Original balls faced by P = $120 \times \frac{100}{25} = 480$
Balls faced by R = $\frac{480}{2} = 240$
Central angle of runs scored by R is 198°.
So, Central angle of runs scored by P & Q together = 360°– 198° = 162°
162° = (120+60)
$1° = \frac{180}{162}$
$198° = \frac{180}{162} \times 198 = 220$
Runs scored by R = 220
Central angle of runs scored by P = $\frac{120}{120+220+60} \times 360 = 108°$
Central angle of balls faced by Q = $\frac{180}{480+180+240} \times 360 = 72°$
Required difference = $108° - 72° = 36°$

S53. Ans.(d)
Sol.
Balls faced by Q = 180
Let runs scored by Q be 'q'
$\frac{1}{3} = \frac{q}{180}$
$q = 60$

So, runs scored by Q = 60
Had P faced the same number of balls Q faced, but scored same number of runs he scored initially, then his strike rate would have been double that of Q.
Strike rate of P = $33\frac{1}{3} \times 2 = \frac{200}{3}$
Balls faced by P =180
Let runs scored by P be 'p'
$\frac{2}{3} = \frac{p}{180}$
$p = 120$
So, runs scored by P = 120
Original strike rate of P = 25
Original balls faced by P = $120 \times \frac{100}{25} = 480$
Balls faced by R = $\frac{480}{2} = 240$
Central angle of runs scored by R is 198°.
So, Central angle of runs scored by P & Q together = 360°– 198° = 162°
162° = (120+60)
$1° = \frac{180}{162}$
$198° = \frac{180}{162} \times 198 = 220$
Runs scored by R = 220
Balls faced by P = 180
Balls faced by Q = 240
From (i)
Balls faced by Q = 240
Runs scored by Q = 60
240 balls = 60 runs
160 balls = 40 runs
60+40 = 100 runs
Statement (i) is correct.
From (ii)
Strike rate of P = $\frac{120}{180} \times 100 = 66\frac{2}{3}$
Strike rate of R = $\frac{220}{240} \times 100 = 91\frac{2}{3}$
Statement (ii) is not correct.
From (iii)
New strike of Q = $\frac{60}{240} \times 100 = 25$
Strike of P = 25
Statement (iii) is correct.

S54. Ans.(b)
Sol.
Balls faced by Q = 180
Let runs scored by Q be 'q'
$\frac{1}{3} = \frac{q}{180}$
$q = 60$

So, runs scored by Q = 60
Had P faced the same number of balls Q faced, but scored same number of runs he scored initially, then his strike rate would have been double that of Q.
Strike rate of P = $33\frac{1}{3} \times 2 = \frac{200}{3}$
Balls faced by P =180
Let runs scored by P be 'p'
$\frac{2}{3} = \frac{p}{180}$
$p = 120$
So, runs scored by P = 120
Original strike rate of P = 25
Original balls faced by P = $120 \times \frac{100}{25} = 480$
Balls faced by R = $\frac{480}{2} = 240$
Central angle of runs scored by R is 198°.
So, Central angle of runs scored by P & Q together = 360°– 198° = 162°
162° = (120+60)
$1° = \frac{180}{162}$
$198° = \frac{180}{162} \times 198 = 220$
Runs scored by R = 220

Runs scored by R = 220
Runs scored by 4's = 25× 4 =100
Number of 6's hit = $\frac{220-100}{6} = 20$
Number of dot balls faced by R = $240 - 25 - 20 = 195$

S55. Ans.(e)
Sol.
Let efficiency of a man & a woman be 'm' &'w' respectively.
$p \times m \times q = q \times w \times p$
$m = w$
Total work = $(20 \times m + 16 \times m) \times \frac{160}{3} = 1920m\ units$

Let the efficiency of a man be m
ATQ,
$(20 \times m + 24 \times m) \times 0.6x + y \times 0.45x = 1920m \quad \ldots\ldots (i)$
And
$y \times x = 1920m \ldots\ldots (ii)$
From (i) & (ii)
$(20 \times m + 24 \times m) \times 0.6x + 1920m \times 0.45 = 1920m$
$44m \times 0.6x = 1920m - 1920m \times 0.45$
$26.4mx = 1920m \times 0.55$
$x = 40$

S56. Ans.(a)
Sol.
Let efficiency of a man & a woman be 'm' &'w' respectively.
$p \times m \times q = q \times w \times p$
$m = w$
Total work = $(20 \times m + 16 \times m) \times \frac{160}{3} = 1920m\ units$

Total work = 1920m units
ATQ,
$$\frac{1920m}{15 \times m + 12 \times m} = 71\frac{1}{9}\ days$$

S57. Ans.(b)
Sol.
Let efficiency of a man & a woman be 'm' &'w' respectively.
$p \times m \times q = q \times w \times p$
$m = w$
Total work = $(20 \times m + 16 \times m) \times \frac{160}{3} = 1920m\ units$

ATQ,
$\big((z + 24) + (10m + 14m)\big) \times 16 = 1920m$
$(z + 24) \times 16 = 1536m$
z + 24 = 96m .....(i)
And
$z \times 26 = 1920m$ ....(ii)
From (i) & (ii)
$$\frac{(z + 24)}{z \times 26} = \frac{96m}{1920m}$$
$$\frac{(z + 24)}{z \times 13} = \frac{1}{10}$$
$10z + 240 = 13z$
$240 = 3z$
$z = 80$

S58. Ans.(e)
Sol.
Profit earned by Y = $\frac{3600}{18 \times 5} \times 100 = Rs.4000$
Total profit = $2 \times 4000 + 4800 = Rs.12800$
ATQ,
$$\frac{a}{(a - 1200 + a + 1800)} = \frac{4000}{12800 - 4000}$$
$$\frac{a}{2a + 600} = \frac{4000}{8800}$$
$$\frac{a}{2a + 600} = \frac{5}{11}$$

$11a - 10a = 3000$

$a = 3000$

From (A)

Value of 'a' is not a multiple of 12.

hence, statement (A) is false

From (B)

Profit share ratio of X, Y to Z = 1800 : 3000: 4800 = 3 : 5 : 8

Profit of Z = $\frac{12800}{16} \times 8 = Rs.6400$

ATQ,

$\frac{6400}{12800} \times 100 = 50\%$

Z not earned 37.5% of the total profit.

From (C)

Sum of the investment of X & Y = 1800+3000= Rs.4800

4800 is completely divisible of by 8.

So, only (A) & (C) are true

S59. Ans.(e)

Sol.

x + y=61.....(i)

And

y= 2x+7

put value of y in eq. (i)

$x + 2x + 7 = 61$

$x = 18$

And

$y = 36 + 7 = 43$

$z^a - 2$ is a largest negative integer

So, z^a-2=−1

z^a=1

As, z > 1

a=0

Value of 'z^a −a+x'= 1-0+18 = 19

Value of 'y-a=43-18 = 25

S60. Ans.(e)

Sol.

Let speed of boat P & boat Q in still water be p km/hr & q km/hr respectively.

Let the speed of stream in X and Y be X km/hr and Y km/hr respectively

From (i)

X+Y =12 ...(a)

From (ii)

$Z \times (q + Y) - \big((Z + 2) \times (q - Y)\big) = 120 \ldots . (b)$

From (iii)

$\frac{420}{8} = p + X$

$52.5 = p + X \ldots . (c)$

And

$\frac{120}{6} = q - Y$

$20 = q - Y \ldots . . (d)$

We have five variable and four equations so, we can't determine.

S61. Ans.(b)

Sol.

Z=Y-X....(i)

Y+X=115

X=115-Y....(ii)

Y+Z=95

Z=95-Y....(iii)

From (i) & (ii) & (iii)

95-Y=Y-(115-Y)

210=3Y

70=Y

Y value put in (iii)

$Z = 95 - 70$

$Z = 25$

Y value put in (ii)

$X = 115 - 70$

$X = 45$

Years	Number of poems published	Number of stories published
2011	702	$\frac{702}{45} \times (100 - 45)$ $= 858$
2012	$1640 - 702$ $= 938$	$\frac{938}{70} \times (100 - 70)$ $= 402$
2013	$1910 - 1640$ $= 270$	$\frac{270}{25} \times (100 - 25)$ $= 810$

Let number of stories published in 2016 be 'S'

ATQ,

$\frac{402}{S} = \frac{70 - 3}{3 \times 25}$

$S = 450$

Number of poems published in 2016 = $\frac{450}{40} \times 60 = 675$

Required percentage = $\frac{27}{675} \times 100 = 4\%$

Option (a)

$[41 \times 45 - (25 \times 70 + 91)]\% = 4\%$

Option (c)

$[0.12 \times 70 - 4]\% = 4.4\%$

Option (e)

$\left[\frac{25}{5} - 1\right]\% = 4\%$

S62. Ans.(b)

Sol.

Z=Y-X....(i)

Y+X=115

X=115-Y....(ii)

Y+Z=95

Z=95-Y....(iii)

From (i) & (ii) & (iii)

95-Y=Y-(115-Y)

210=3Y

70=Y

Y value put in (iii)

$Z = 95 - 70$

$Z = 25$

Y value put in (ii)

$X = 115 - 70$

$X = 45$

Years	Number of poems published	Number of stories published
2011	702	$\frac{702}{45} \times (100 - 45) = 858$
2012	$1640 - 702 = 938$	$\frac{938}{70} \times (100 - 70) = 402$
2013	$1910 - 1640 = 270$	$\frac{270}{25} \times (100 - 25) = 810$

Required difference = 810-420 = 408

Option (a)

$9 \times 45 + 15 = 420$

Option (b)
$6 \times 70 - 12 = 408$
Option (c)
$17 \times 25 - 12 = 413$

S63. Ans.(b)
Sol.
Z=Y-X....(i)
Y+X=115
X=115-Y....(ii)
Y+Z=95
Z=95-Y....(iii)
From (i) & (ii) & (iii)
95-Y=Y-(115-Y)
210=3Y
70=Y
Y value put in (iii)
$Z = 95 - 70$
$Z = 25$
Y value put in (ii)
$X = 115 - 70$
$X = 45$

Years	Number of poems published	Number of stories published
2011	702	$\frac{702}{45} \times (100 - 45)$ $= 858$
2012	$1640 - 702$ $= 938$	$\frac{938}{70} \times (100 - 70)$ $= 402$
2013	$1910 - 1640$ $= 270$	$\frac{270}{25} \times (100 - 25)$ $= 810$

Number of poems published in 2015 = $7 \times 45 + 9 = 324$
Required percentage = $\frac{324-270}{270} \times 100 = 20\%$
Option (a)
$3 \times \frac{45}{9} + 4 = 19$
Option (b)
$0.4 \times 70 - (0.2 \times 25 + 3)$
$= 28 - 8 = 20$
Option (c)
$\frac{70}{4} + \frac{25}{5} = 22.5$

S64. Ans.(a)

Sol.

Speed of B = 25 m/sec

Speed of B in km/hr = $25 \times \frac{18}{5} = 90$ km/hr

B reached the destination at 7:30 pm

So, total time taken by B to reached the destination (11:30 am to 7:30 pm) = 8 hours

Total distance = $8 \times 90 = 720$ km

B is the fastest and A is the slowest

So, speed of A, B & C is $B > C > A$

Speed of A = $90 \times \frac{3}{4} = 67.5$ km/hr

From (A)

Total time taken by A to reached the destination = $\frac{720}{67.5} = 10\frac{2}{3} = 10$ hours 40 min.

So, A taken 2 hours 40 min more than B to reached the destination.

From (B)

A starting from point X at 9:30

So, he reached the destination at (9:30+10 hours 40 min) = 8:10 pm

From (C)

Time taken by A to reached the destination = 10 hours 40 min

Time taken by B to reached the destination = 8 hours

Total time = $8\ hours + 10\ hours\ 40\ min = 18\ hours\ 40\ min$

S65. Ans.(b)

Sol.

Speed of B = 25 m/sec

Speed of B in km/hr = $25 \times \frac{18}{5} = 90$ km/hr

B reached the destination at 7:30 pm

So, total time taken by B to reached the destination (11:30 am to 7:30 pm) = 8 hours

Total distance = $8 \times 90 = 720$ km

B is the fastest and A is the slowest

So, speed of A, B & C is $B > C > A$

From (A)

B is the fastest and A is the slowest

So, speed of A, B & C is $B > C > A$

Total time taken by B to reached the destination = 8 hours

Speed of C is less than B and speed of A is less than B & C

C reached the destination in 6 hours and A reached the destination in 4.5 hours.

A is the slowest person so, he takes the time more than B & C.

(A) is not correct

From (B)

B is the fastest and A is the slowest

So, speed of A, B & C is $B > C > A$

Total time taken by B to reached the destination = 8 hours
Speed of C is less than B so, he takes more time than B
(B) is not correct
From (C)
New distance = 720+180=900 km
Speed of C = $90 \times \frac{1}{6} = 15$ km/hr
Time taken by C = $\frac{900}{15} = 60$ hours
Speed of A is less than C so, he takes more time than C.
(C) is not correct

S66. Ans.(a)
Sol. From (i)
$x \times x - 3x - \sqrt{(4x^2)} = -6$
$x^2 - 3x - 2x = -6$
$x^2 - 5x + 6 = 0$
$x = 3,2$
From (ii)
$y^2 - \sqrt{(81y^2)} = -4 \times 5$
$y^2 - 9y = -20$
$y^2 - 9y + 20 = 0$
$y = 4,5$
From (iii)
$\frac{z^2\sqrt{625z^6}}{5z^3} + (4 \times 7) = 39z$
$\frac{z^2 25z^3}{5z^3} + 28 = 39z$
$5z^2 - 39z + 28 = 0$
$z = 7, \frac{4}{5}$
From (iv)
$p^2 - (3 \times 5)p = 7 \times -(8)$
$p^2 - 15p + 56 = 0$
$p = 7,8$
Larger roots of x, y, z & p is 3, 5, 7 & 8 respectively
L.C.M. of 3, 5, 7 & 8 = 840

S67. Ans.(d)
Sol. From (i)
$x \times x - 3x - \sqrt{(4x^2)} = -6$
$x^2 - 3x - 2x = -6$
$x^2 - 5x + 6 = 0$
$x = 3,2$

From (ii)

$y^2 - \sqrt{(81y^2)} = -4 \times 5$

$y^2 - 9y = -20$

$y^2 - 9y + 20 = 0$

$y = 4,5$

From (iii)

$\frac{z^2\sqrt{625z^6}}{5z^3} + (4 \times 7) = 39z$

$\frac{z^2 25z^3}{5z^3} + 28 = 39z$

$5z^2 - 39z + 28 = 0$

$z = 7, \frac{4}{5}$

From (iv)

$p^2 - (3 \times 5)p = 7 \times -(8)$

$p^2 - 15p + 56 = 0$

$p = 7,8$

Required difference = $8 - \frac{4}{5} = 8 - 0.8 = 7.2$

S68. Ans.(b)

Sol. From (i)

$x \times x - 3x - \sqrt{(4x^2)} = -6$

$x^2 - 3x - 2x = -6$

$x^2 - 5x + 6 = 0$

$x = 3,2$

From (ii)

$y^2 - \sqrt{(81y^2)} = -4 \times 5$

$y^2 - 9y = -20$

$y^2 - 9y + 20 = 0$

$y = 4,5$

From (iii)

$\frac{z^2\sqrt{625z^6}}{5z^3} + (4 \times 7) = 39z$

$\frac{z^2 25z^3}{5z^3} + 28 = 39z$

$5z^2 - 39z + 28 = 0$

$z = 7, \frac{4}{5}$

From (iv)

$p^2 - (3 \times 5)p = 7 \times -(8)$

$p^2 - 15p + 56 = 0$

$p = 7,8$

Difference between larger root and smaller root of equation (i) = 3-2 = 1
Difference between larger root and smaller root of equation (ii) = 5-4 = 1
Difference between larger root and smaller root of equation (iii) = 7-0.8 = 6.2
Difference between larger root and smaller root of equation (iv) = 8-7 = 1

S69. Ans.(b)

Sol.

Let the total quantity of mixture of P & Q is 3z & 2z respectively.

ATQ,

$$\frac{\frac{3za}{100}+\frac{2zd}{100}}{5z}=\frac{23}{100}$$

$3a + 2d = 115$ ….(i)

And

a + d=45 ….(ii)

From (i) & (ii)

$d = 20, a = 25$

From (I)

$a - d = 10$

$3a + 2d = 115$

$a = 27, 17 = d$

We can't find the value of z.

From (II)

Initial quantity of mixture P is 60 liters

And quantity of milk is 15 liters.

$3z = 60$

$z = 20$

We can find the final quantity of milk.

From (III)

Final quantity of mixture P = $3z - 15$

Final quantity of mixture Q = $2z + 15$

As we don't know the quantity of milk and water separately

so,

We can't find the value of z.

S70. Ans.(c)

Sol.

Let height of cylinder A & B be 'h' cm

ATQ,

$$9240 = \frac{22}{7} \times 14 \times 14 \times h - \frac{22}{7} \times 7 \times 7 \times h$$

$$9240 = \frac{22}{7} \times 7 \times 7 \times h \times (3)$$

$h = 20$ cm

S71. Ans.(e)
Sol.
Volume of cylinder B = $\frac{22}{7} \times 7 \times 7 \times 20 = 3080$ cm³
Time taken to empty the cylinder = $\frac{3080}{0.5} = 6160\ sec. = \frac{6160}{60} = 102\frac{2}{3}\ mins$

S72. Ans.(d)
Sol.
New radius of cylinder B = 7 + 3.5 = 10.5 cm
Volume increased in cylinder B = $\frac{22}{7} \times 10.5 \times 10.5 \times 20 - \frac{22}{7} \times 7 \times 7 \times 20$
Increased volume = $\frac{22}{7} \times 20 \times (110.25 - 49) = \frac{22}{7} \times 20 \times 61.25 = 3850$ cm³
The excessive amount of water that would be spilled out = increased in the volume of cylinder B = 3850 cm³

S73. Ans.(b)
Sol.
Let cost price of article A and article B be CP_A & CP_B respectively
Marked price of article A and article B be MP_A & MP_B respectively
And selling price of article A and article B be SP_A & SP_B respectively
From (A)
$SP_A = SP_B + 140$
$MP_A - CP_A = 264$
From (B)
Discount given on article Y is Rs.56 more than the profit earned on article X.
From (C)
$CP_A + 224 = SP_B$
Discount given on article X = 30%
And profit on article Y = 40%
From (A) & (C) together
$SP_A = SP_B + 140$
$\frac{7}{10}MP_A = SP_B + 140$.....(i)
$MP_A - CP_A = 264$
$MP_A - (SP_B - 224) = 264$ .....(ii)
We have two equation & two variables so,
from (A) & (C) together we can define the solution.

S74. Ans.(c)
Sol.
Let speed of boat in still water and speed of stream be a km/hr & b km/hr respectively.
$a - b = 24 \ldots . (i)$
$(a - b) \times y = x \ldots . (ii)$
$(a + b) \times y = 144 \ldots (iii)$
$\frac{216}{a - b} - Z = \frac{216}{a + b} \ldots . (iv)$

$9 - Z = \frac{216}{a+b} \ldots . (v)$

From (A)

$X - Y^3 + Z^3 > 102$

From (B)

$Z^2 = 18(a + b)$

We can't find the ratio between speed of boat in still water to speed of stream.

S75. Ans.(a)

Sol.

Pattern of the series A:

24, 31.5, 46.5, 69, **99**, 136.5, 181.5

7.5 15 22.5 30 37.5 45

Wrong number = 98

Pattern of the series B:

5926, 886, 166, 46, 22, **16**, 14

5040 720 120 24 6 2

7! 6! 5! 4! 3! 2!

Wrong number = 18

Pattern of the series C:

11, 18, 44, 107, 231, 446, 788

7 26 63 124 215 342

$(2^3 - 1)$ $(3^3 - 1)$ $(4^3 - 1)$ $(5^3 - 1)$ $(6^3 - 1)$ $(7^3 - 1)$

Wrong number = 445

$X = 98$, Y = 18, Z = 445

So, $X > Y < Z$

S76. Ans.(d)

Sol.

Pattern of the series A:

24, 31.5, 46.5, 69, **99**, 136.5, 181.5

7.5 15 22.5 30 37.5 45

Wrong number = 98

Pattern of the series B:

5926, 886, 166, 46, 22, **16**, 14

5040 720 120 24 6 2

7! 6! 5! 4! 3! 2!

Wrong number = 18

Pattern of the series C:

11, 18, 44, 107, 231, 446, 788

7 26 63 124 215 342

$(2^3 - 1)$ $(3^3 - 1)$ $(4^3 - 1)$ $(5^3 - 1)$ $(6^3 - 1)$ $(7^3 - 1)$

Wrong number = 445

Pattern of the series:

23 30 **P= 56** 119 243 **Q= 458** 800

7 26 63 124 215 342

$(2^3 - 1)$ $(3^3 - 1)$ $(4^3 - 1)$ $(5^3 - 1)$ $(6^3 - 1)$ $(7^3 - 1)$

Required difference = $458 - 56 = 402$

S77. Ans.(b)

Sol.

Pattern of the series A:

24, 31.5, 46.5, 69, **99**, 136.5, 181.5

7.5 15 22.5 30 37.5 45

Wrong number = 98

Pattern of the series B:

5926, 886, 166, 46, 22, **16**, 14

5040 720 120 24 6 2

7! 6! 5! 4! 3! 2!

Wrong number = 18

Pattern of the series C:

11, 18, 44, 107, 231, 446, 788

7 26 63 124 215 342

$(2^3 - 1)$ $(3^3 - 1)$ $(4^3 - 1)$ $(5^3 - 1)$ $(6^3 - 1)$ $(7^3 - 1)$

Wrong number = 445

P = 99, Q = 16
$x^2-15x=-56$
$x^2-15x+56=0$
x = 8,7
$R = 8 \times 8 = 64$
From (i)
$Q + R = P$
$16 + 64 = 99$
$80 = 99$
(i) does not follows
From (ii)
$\frac{P}{3} + 15 = R - Q$
$\frac{99}{3} + 15 = 64 - 16$
$48 = 48$
(ii) follows
From (iii)
$\sqrt{R} + P = Q \times 7 - 5$
$\sqrt{64} + 99 = 16 \times 7 - 5$
$107 - 107$
(iii) does follows

S78. Ans.(a)
Sol.

Cost price of article R = Rs. (5000+a)
Marked price of article R = Rs.12b
a = 3b
So, marked price of article R = Rs.4a
Discount on article R = $\frac{a}{5}$
Selling price of article R = $4a - \frac{a}{5} = Rs.\frac{19a}{5}$
ATQ.
$(5000 + a) \times \frac{57}{40} = \frac{19a}{5}$
$15000 + 3a = 8a$
$a = 3000$
And
a = 3b
3000 = 3b
b= 1000
Cost price of article T = Rs.(8000+3000)= Rs.11000
Marked price of article T = $25 \times 1000 = Rs.25000$
Discount on article T = $\frac{1000}{5} = 200$
Selling price of article T = $25000 - 200 = Rs.24800$
Required profit % = $\frac{24800-11000}{11000} = 125.45\%$

S79. Ans.(b)

Sol.

Cost price = Rs. (8000+a)

Marked price = Rs.25b

Discount = Rs. $\frac{a+b}{5}$

Selling price = Rs. $(25b - \frac{a+b}{5})$

Given $3a = 10b$

$\frac{3a}{10} = b$

Selling price = Rs. $(25\left(\frac{3a}{10}\right) - \frac{a+\frac{3a}{10}}{5})$

$= \text{Rs.}\left(\frac{15a}{2} - \frac{13a}{50}\right)$

$= \text{Rs.}\left(\frac{375a - 13a}{50}\right) = \text{Rs.}\frac{362a}{50}$

Profit given = Rs. (2a+b−120)

$= Rs.\left(2a + \frac{3a}{10} - 120\right)$

$= Rs.\frac{23a - 1200}{10}$

ATQ.

$\frac{362a}{50} - a - 8000 = \frac{23a - 1200}{10}$

$\frac{362a}{50} - \frac{23a}{10} - a = 8000 - 120$

$\frac{197a}{50} = 7880$

$a = 2000$

And

$3a = 10b$

$3(2000) = 10b$

$600 = b$

Cost price of article R = 5000+2000=Rs.7000

Marked price of article R = $12b = 12 \times 600 = Rs.7200$

Cost price of article T = 8000+2000=Rs.10000

Marked price of article T = $25b = 25 \times 600 = Rs.15000$

Value of C = $(7200 - 7000) - (15000 - 10000) = Rs.4800$

From (A)

7b < C < 3a− b + 2150

4200 < 4800 < 7550

So, A is correct

From (B)

2a+b < C < 3a− 2b + 3250

4600 < 4800 <8050

So, B is correct

From (C)

3a – b+2030 > C > 8b + 1050

7430 > 4800 > 5850

So, C is not correct

S80. Ans.(b)

Sol.

ATQ.

$$3300 = 7500\left((1+\frac{X}{100})^2 - 1\right)$$

$$\frac{3300}{7500} = \left((1+\frac{X}{100})^2 - 1\right)$$

$$\frac{11}{25} + 1 = (1+\frac{X}{100})^2$$

$$X = 20$$

Quick Approach

Ratio of Principal and Amount after 2 years = 25 : 36

Ratio of Principal and Amount after 1 year will be = 5 :6 (take square root)

Rate = $\frac{1}{15} \times 100 = 20\%$

From (i), Rate of interest in scheme A = (X-5) % = 20-5 =15%

Invested in scheme B = Rs. (200X)=Rs.$(200 \times 20) = Rs.4000$

Interest received from scheme A is Rs.480 more than that of scheme B.

ATQ.

$$4800 \times \frac{15}{100} \times 2 = Rs.1440$$

And

$$4000 \times 12 \times \frac{2}{100} = Rs.960$$

Req. difference = $1440 - 960 = Rs.480$

So, option (i) follows the condition.

From (ii), Rate of interest in scheme A = X% = 20%

Invested in scheme B = $Rs.4800$

Interest received from scheme A is Rs.360 more than that of scheme B.

ATQ.

$$4800 \times \frac{20}{100} \times 2 = Rs.1920$$

And

$$4800 \times 12 \times \frac{2}{100} = Rs.1152$$

Req. difference = $1920 - 1152 = Rs.768$

So, option (ii) doesn't follow.

From (iii), Rate of interest in scheme A = 1.5X% = $(1.5 \times 20) = 30\%$

Invested in scheme B = $Rs.4000$

Interest received from scheme A is Rs.500 more than that of scheme B.
ATQ.

$$4800 \times \frac{30}{100} \times 2 = Rs.2880$$

And

$$4000 \times 12 \times \frac{2}{100} = Rs.960$$

Req. difference = $2880 - 960 = Rs.1920$
So, option (iii) doesn't follow

S81. Ans.(a)
Sol. On referring to the first few lines of the paragraph we can conclude that only option (a) is true. Refer "It has recently been discovered that many attributions of paintings to the seventeenth-century Dutch artist Rembrandt may be false. The contested paintings are not minor works, whose removal from the Rembrandt corpus would leave it relatively unaffected: they are at its very center."

S82. Ans.(c)
Sol. On referring to the complete second paragraph we can say that only option (c) is true.

S83. Ans.(b)
Sol. The correct replacement for the given phrasal verb is 'stood apart'.
Stood away: to not go near someone or something; avoid
Stood apart: to be obviously different from somebody/something
Stood by: be ready to deal or assist with something
Stood in: deputize.
Stood up: involving direct confrontation

S84. Ans.(b)
Sol. Perpetuate: make (something) continue indefinitely
Bequeath: leave (property) to a person or other beneficiary by a will
Legitimize: make legitimate
Transience: the state or fact of lasting only for a short time; transitoriness
Aberration: a departure from what is normal, usual, or expected, typically an unwelcome one
Perpetuity: the state or quality of lasting forever

S85. Ans.(e)
Sol. Corroborating: confirm or give support to
Retaining: serving to hold an object in place.
Alleging: claim or assert that someone has done something illegal or wrong
Substantiate: provide evidence to support or prove the truth of
Culminate: reach a climax or point of highest development
Abate: to become less active

S86. Ans.(c)
Sol. Austere: having no comforts or luxuries.
Treacherous: guilty of or involving betrayal or deception
Taut: pulled tight
Bourgeois: the middle class
Eerie: strange and frightening
Perverse: contrary to the accepted or expected standard or practice.

S87. Ans.(b)
Sol. Judiciously: with good judgement or sense
Implicitly: in a way that is not directly expressed; tacitly
Succinctly: in a brief and clearly expressed manner
Convenience: the state of being able to proceed with something without difficulty.
Caprice: a sudden and unaccountable change of mood or behaviour
Accretion: growth or increase by the gradual accumulation of additional layers or matter.

S88. Ans.(a)
Sol. Hitherto: until now or until the point in time under discussion.
Whereby: by which
Elsewhere: in, at, or to some other place or other places
Fallible: capable of making mistakes or being wrong.
Exercisable: Capable of being exercised
Inviolable: never to be broken, infringed, or dishonored

S89. Ans.(e)
Sol. On referring to the first paragraph of the passage, we can say that all the given options are true. Refer to the section, "It has been seen that the traditional consumers are more predictable a creature of habit. The new ones are more socially aware, and thus often more responsive to socially responsible consumption of goods and services. Having more information at their fingertips, many customers are much more judicious giving them more confidence — and also less inclined to blindly consume spoon-fed information from brands and companies."

S90. Ans.(e)
Sol. Refer to the second paragraph to answer the given question, "Keeping this in mind, brands should be more conscious and wiser in the way they interact with their clients and customers. Part of this is developing marketing that does not lose touch with customers; marketing that the customers of today can relate to. Companies' survival will thus be contingent on better understanding this new crop of customers, as well as how the current environment — one that is largely digital in nature — factors into how these customers think, behave and consume."

S91. Ans.(c)
Sol. For option (a): Refer to the complete first paragraph
For option (b) and (c): Refer to the third paragraph, "Marketing 1.0 was largely productional based and the most basic, born out of the manufacturing boom in the 1950's."

For option (d): Refer to the third paragraph, "But the crisis in the 70's and 80's created Marketing 2.0, which is also called relational marketing. Here, consumers started becoming more smarter in their spending (given the economic hardship prevalent at that time), meaning companies needed to find things customers could relate to in order to prompt a positive, beneficial response."

S92. Ans.(d)
Sol. Refer to the second paragraph to answer the given question, "Keeping this in mind, brands should be more conscious and wiser in the way they interact with their clients and customers. Part of this is developing marketing that does not lose touch with customers; marketing that the customers of today can relate to. Companies' survival will thus be contingent on better understanding this new crop of customers, as well as how the current environment — one that is largely digital in nature — factors into how these customers think, behave and consume."

S93. Ans.(d)
Sol. The correct word for the given is 'driver'
Stumper: a puzzling question.
Yielder: a stock, company, etc., that produces or generates a specified level of gain or financial return.
Grinder: a machine used for grinding something
Driver: a factor which causes a particular phenomenon to happen or develop
Collector: a person who collects things of a specified type, professionally or as a hobby.

S94. Ans.(b)
Sol. Refer to the last paragraph to answer the following question, "But the crisis in the 70's and 80's created Marketing 2.0, which is also called relational marketing. Here, consumers started becoming more smarter in their spending (given the economic hardship prevalent at that time), meaning companies needed to find things customers could relate to in order to prompt a positive, beneficial response."

S95. Ans.(d)
Sol. Only option (A) and (B) are correct. Refer to the last paragraph, "The evolution of the old approach gave birth to Marketing 3.0, where the objective was to meet both the rational and emotional needs of customers. It's also called the "appeal to emotion," or "emotional marketing." As opposed to the two previous approaches where the market was seen as product driven (Marketing 1.0), mass market with smarter customers (Marketing 2.0), Marketing 3.0 saw customers as people, instead of just segments"

S96. Ans.(a)
Sol. Analytical: relating to or using analysis or logical reasoning.
Lethargically: affected by lethargy; sluggish and apathetic.
Cynical: concerned only with one's own interests and typically disregarding accepted standards in order to achieve them
Abysmal: extremely bad; appalling.

S97. Ans.(b)
Sol. The sentence thus formed will be, "Cooperative banking in India was initially started as a movement to handle issues of rural credit and the Cooperative Societies Act, 1904 gave a defined shape to the cooperative movement."
Repressive: inhibiting or restraining personal freedom.
Fugitive: a person who has escaped from captivity or is in hiding.

S98. Ans.(d)
Sol. The sentence thus formed will be, "Even when a telecommuting employee is expected to adhere to fixed work hours, the arrangement still provides a significant savings in time spent dressing for work, commuting, and socializing with other employees."

S99. Ans.(a)
Sol. The sentence thus formed will be, "Some fashion traditionalists still eschew white in winter, so if you're a stickler for style rules, consider winter white, cream or ivory tops instead."
Eschew: deliberately avoid using; abstain from.
Shunned: persistently avoided, ignored, or rejected.

S100. Ans.(e)
Sol. The sentence thus formed will be, "Alter hundred and fifty years of foreign war and civil discord, at period when order and unity were ardently desired, an absolute monarchy had appeared the only power capable of realizing such aspirations."
Discern: recognize or find out.
Discord: disagreement between people.

S101. Ans.(c)
Sol. Here the woman was seeing many colors and their formations inside her head. This clearly signifies a condition of kaleidoscopic vision.
Delusional: based on or having faulty judgement; mistaken
Transfusion: an act of transferring donated blood, blood products, or other fluid into the circulatory system of a person or animal.
Kaleidoscopic: having complex patterns of colors; multicolored.
Emmetropic: If you have emmetropia it means you have ideal distance vision and don't need lenses to correct your vision
Astigmatic: a common and generally treatable imperfection in the curvature of the eye that causes blurred distance and near vision

S102. Ans.(b)
Sol. Though the paragraph is mentioning a sand castle which is easy to damage, it symbolizes the ephemera nature of things, i.e., now or later everything will be going to disappear.
Illusive: deceptive; illusory.
Ephemeral: lasting for a very short time.
Obtrusive: noticeable or prominent in an unwelcome or intrusive way.
Bizarre: very strange or unusual.
Boundless: unlimited or immense.

S103. Ans.(e)
Sol. Microphobia: fear of small things
Entomophobia: fear of insects
Androphobia: fear of men
Technophobia: fear of technology
Acrophobia: fear of heights

S104. Ans.(a)
Sol. Play dumb: pretend not to notice.
See eye to eye: agreeing with someone
Cut corners: to do something badly or cheaply
Bite the bullet: Decide to do something unpleasant that you have avoiding doing.
Call it a day: Stop working on something

S105. Ans.(b)
Sol. Overhaul: overtake (someone), especially in a sporting event
Overhead: it does not include depreciation or the cost of financing
Impediment: a hindrance or obstruction in doing something
Accede: agree to a demand, request, or treaty.
Undercut: the material removed by a cut made underneath

S106. Ans.(c)
Sol. In the section (C), 'yet' must be changed with 'but', as the correct phrase is 'not only ….but also'. This is used for emphasizing the fact that there is something more to add.

S107. Ans.(c)
Sol. Convenience: the state of being able to proceed with something without difficulty
Prudence: the quality of being prudent; cautiousness

S108. Ans.(e)
Sol. On referring to the complete second paragraph we can understand all the points are true.

S109. Ans.(a)
Sol. Erratic: not even or regular in pattern or movement; unpredictable.
Judicious: having, showing, or done with good judgement or sense
Jubilant: feeling or expressing great joy
Sporadic: occurring at irregular intervals or only in a few places; scattered or isolated.

S110. Ans.(d)
Sol. Refer to the first paragraph to answer the given question, "Some thinkers hold that mathematics is a kind of language--a systematic contrivance of signs, the criteria for the authority of which are internal coherence, elegance, and depth. The application of such a highly artificial system to the physical world, they claim, results in the creation of a kind of statement about the world. Accordingly, what matters in the sciences is finding a mathematical concept that attempts, as other language does, to describe the functioning of some aspect of the world."

S111. Ans.(a)
Sol. Refer to the second paragraph to answer the given question, "The debate is on whether language corresponds in some essential way to objects and behaviors, making knowledge a solid and reliable commodity; or, on the other hand, whether the relationship between language and things is purely a matter of agreed-upon conventions, making knowledge tenuous, relative, and inexact."

S112. Ans.(d)

Sol. By going through the complete third paragraph we can conclude that only options (a) and (b) are true.

S113. Ans.(c)

Sol. Going through the complete passage it is seen that although mathematics bridges the requirement needed for a language, it is also argued as it lacks the inherent nature. But, the idea of giving mathematics a universal language status cannot be ruled out.

S114. Ans.(d)

Sol. An assertive tone exudes confidence and authority. It can also be insistent and straightforward. Here, the last statement of the passage shows the confidence about mathematics can be persuaded as a language.

Inquisitive: Curious

Ecstatic: cheerful

Encouraging: giving someone support or confidence; supportive

Cooperative: evokes positivity and collaboration

S115. Ans.(a)

Sol. Tenuous: very weak or slight.

Insubstantial: lacking strength and solidity.

Rigid: unable to bend or be forced out of shape; not flexible

Foisting: impose an unwelcome or unnecessary person or thing on.

Vitriolic: filled with bitter criticism