Directions (71-77) Read the given passage carefully and answer the following questions. Certain parts have been highlighted to help answer the questions.

Every year, around one million people die of mosquito-borne diseases according to the World Health Organization (WHO). This is why mosquitoes are considered one of the **deadliest** living creatures on the planet — not because they are lethal themselves, but because many of the viruses and parasites they transmit are.

In the absence of an effective vaccine for dengue fever, Zika fever, chikungunya and other mosquito-borne diseases, researchers have developed genetic strategies to reduce mosquito populations. One such strategy involves the release into the wild of genetically modified (GM) mosquitoes that express a lethal gene — a strategy believed to have little impact on the overall DNA of wild populations of mosquitoes.

The transfer of new genes from GM organisms to wild or domesticated non-GM populations is a key criticism of GM crops like soybean and corn. There are concerns that the introduction of GM genes into non-target species could have negative consequences for both human and environmental health.

Oxitec, a company that spun out of research at Oxford University in the early 2000s, developed and trademarked GM Friendly™ mosquitoes (also known as strain OX513A of Aedes aegypti). These male GM mosquitoes have what the company describes as a "self-limiting" gene, which means that when these so-called friendly mosquitoes' mate, their offspring inherit the self-limiting gene which is supposed to prevent them surviving into adulthood.

In theory, when these mosquitoes are released in high numbers, a dramatic reduction in the mosquito population should follow. According to research published by Oxitec researchers in 2015, field trials involving recurring releases of Friendly™ mosquitoes demonstrated a reduction of nearly 95 per cent of target populations in Brazil. In these field trials, experiments were not performed to assess whether GM mosquitoes might persist in the wild.

A recent study from the Powell lab at Yale University has since confirmed that some of the offspring of the GM mosquitoes didn't succumb to the self-limiting lethal gene and **survived** to adulthood. They were able to breed with native mosquitoes and thereby introduce some of their genes into the wild population.

Meanwhile, the impact of mosquitoes carrying these new genes remains largely unknown. One significant worry is that a new breed of mosquito might emerge that is more difficult to control. These new genes could also potentially alter evolutionary pressures on viruses carried by mosquitoes, like dengue fever, in unpredictable ways. This includes potentially increasing their virulence or changing their host-insect interactions. These are hypothetical risks that have been raised by scientists, and reflect the need for further study.

71. Why are mosquitoes considered as one of the deadliest living creatures on earth?
(a) Capability to transmit life threatening diseases.
(b) Mosquito bites cause fatal reactions in human beings
(c) Mosquitoes cannot be killed easily
(d) Both (a) and (c)
(e) None of the above

72. What is one of the methods being developed to control population of mosquitoes?
(a) Spraying of pesticides using established procedures.
(b) Introduction of a lethal gene into wild populations of mosquitoes using genetically modified ones.
(c) Not letting any stagnant water build-up near homes
(d) Both (a) and (b)
(e) None of the above

73. What can be the potential side effect(s) of genetically modified mosquito offspring**?**
(a) Evolution of a breed of mosquitoes which are more difficult to control
(b) Increase in the severity of diseases being currently transmitted by mosquitoes.
(c) Change in host-insect interactions.
(d) Loss of natural populations of mosquitoes
(e) (a), (b) and (c)

74. Which of the statements can be considered as true with respect to the passage given?
(a) Field trials on Genetically modified mosquitoes showed reduction of 96% target populations.
(b) Oxitec trademarked the GM Friendly mosquitoes in 2015.
(c) The female GM mosquito has a self-limiting gene
(d) Both (a) and (b)
(e) None of the above

75. What is the desired effect of releasing GM mosquitoes containing the 'Self-limiting Gene'?
(a) A substantial reduction in the population of mosquitoes.
(b) Birth of mosquitoes without a biting mechanism
(c) Decrease in the number of diseases caused due to mosquitoes
(d) Increase in the number of male mosquitoes.
(e) Both (b) and (c)

76. Which of the following word is similar to **deadliest** as mentioned in the passage given?
(a) fatal   (b) demeaning   (c) fulfil
(d) harmless   (e) None of the above

77. Which of the statements can be considered as true with respect to the passage given??
(a) GM mosquitoes are able to introduce some of their genes into the wild population.
(b) Mosquitoes having GM genes have been thoroughly researched upon.
(c) Oxitec released its friendly mosquitoes in Brazil
(d) (a) and (c)
(e) All of the above

Directions (78-80): A word has been given in each question and has been used in the sentences given below. Identify the statements where the word has been used in a contextually and grammatically correct manner. If the word has been used correctly in all the statements, mark (e), "All of these", as your answer.

78. HOSTILE
(i)   He made **hostile** efficiency a key part of his budget plan.
(ii) There has been a **hostile** reaction to the government's proposed tax increase.
(iii) The security forces exercised great restraint by not responding to **hostile** attacks and threats.
(a) Only (i)
(b) Both (i) and (ii)
(c) Both (ii) and (iii)
(d) Only (iii)
(e) All of these

79. VAGUE
(i)   The judges determined that the law was too **vague** to be fairly enforced.
(ii) The merger of these two companies would **vague** the world's biggest accounting firm
(iii) The president had a **vague** reception in Ohio this morning.
(a) Only (i)
(b) Both (i) and (ii)
(c) Both (ii) and (iii)
(d) Only (iii)
(e) All of these

80. ESCALATE
(i)   The pedestrian was jaywalking when he **escalate** the busy street, walking straight into the path of an oncoming vehicle.
(ii) We've tried to **escalate** the most likely problems, but it's impossible to be prepared for every eventuality.
(iii) The decision to **escalate** UN involvement has been made in the hopes of a swift end to the hostilities.
(a) Only (i)
(b) Both (i) and (ii)
(c) Both (ii) and (iii)
(d) Only (iii)
(e) All of these

Directions (81-85): In the following question, four sentences are given which may be grammatically and contextually incorrect. You need to find the one which has no error and mark that as your answer. If all the given sentences are incorrect then mark option (e) i.e. 'all are incorrect' as your answer.

81. (a) India's chocolate market is pegged at Rs.11,000 crore, of which premium chocolates can be sized anywhere among 10% and 15%.
(b) South Korea reported 52 new case of coronavirus.
(c) ITC has plans to work with cocoa farmers directly in future.
(d) The company initially invested Rs. 100 crore to set up a greenfield chocolate manufacture facility in Haridwar.
(e) All are incorrect

82. (a) Ratnakar Bank was rename as RBL Bank by the government.
(b) The government expects all the mergers of public sector banks, which were announced in 2019, to become effective from April 1.
(c) Analysts believe that lower gas prices would be bad with exploration
(d) The Central Drugs Standard Control Organisation will be regulate the medical devices now.
(e) All are incorrect

83. (a) Mahindra Renewables will sell its entire stake in 3 subsidiaries to CLP India, a part of Hong Kong-based CLP Group, as nearly ₹340 crore.
(b) The agreement will be signed to Doha city between Taliban representatives and U.S. special envoy Zalmay Khalilzad.
(c) The U.S. intelligence community publicly concluded that Russia intervened in there security matters.
(d) The injured animal was nursed back to health by the zookeeper and then released back into the wild
(e) All are incorrect

84. (a) English language have the potential to connect the world without any barriers
(b) P.K. Sinha was appointed in the PMO when Nripendra Misra, the then Principal Secretary, resigns.
(c) She drink the caramel liquid too fast and was soon too dizzy to stand.
(d) You're coming to the party, isn't you?
(e) All are incorrect

85. (a) Tamil Nadu is likely to get three textile parks and a technology research centre under schemes that the Union Ministry of Textiles is formulating.
(b) What is the uses of a house if you haven't got a tolerable planet to put it on?
(c) You have brushed your teeth today?
(d) Rahul had barely nothing to help the poor children.
(e) All are incorrect

Directions (86-90): In the following questions, a sentence is divided into four parts consisting of a highlighted word in each part. Choose the option reflecting the word which is either misspelt or grammatically incorrect. If all the highlighted words are correct, choose option (e) i.e. "all are correct" as your answer choice.

86. The manager **balanced (A)** the **strength (B)** of his team against that of their **opponent** (C) and **sighed**. (D)
(a) balanced   (b) strength   (c) opponent
(d) sighed   (e) All are correct

87. One evening Rohan **pripared (A)** a nice **supper (B)** and put it on low heat in the oven to keep it **tepid (C)** while his wife **dressed**. (D)
(a) prepared   (b) supper   (c) tepid
(d) dressed   (e) All are correct

88. She was able to **breathe (A)** easier when she stood outside the **massive(B) fortress (C)** that sat on a clearing the size of two **footbal** (D) fields.
(a) breathe   (b) massive   (c) fortress
(d) football   (e) All are correct

89. From time to time Jack would **looking over(A)** Mungo's shoulder, **suggesting(B) tactics (C)** which invariably proved **disastrous**.(D)
(a) looking over   (b) suggesting   (c) tactics
(d) disastrous   (e) All are correct

90. Horrified (A) passengers saw Olive **stumble (B)** and **fall of (C)** a platform as an express **roared (D)** in.
(a) Horrified   (b) stumble   (c) fall of
(d) roared   (e) All are correct

Directions (91-95): In the following questions, a grammatically correct and meaningful sentence is given which is divided into five parts, where the first part is fixed and highlighted , in the remaining parts of the sentence namely (A),(B),(C) and (D) You have to arrange the four parts to make a contextually and grammatically meaningful sentence. If no such rearrangement is possible mark (e) as your answer i.e. 'No rearrangement required'.

91. (A) the merger of Bharti Infratel
(B) the world's second largest
(C) and Indus Towers will create
(D) tower company
(a) BCDA   (b) CBDA   (c) ACBD
(d) DCAB   (e) No rearrangement is required

92. (A) upcoming visit to India
(B) the long-awaited trade agreement
(C) during US President Donald Trump's
(D) appears to be off the table
(a) DABC   (b) BDCA   (C) CDAB
(d) ADCB   (e) No rearrangement required

93. (A) Leaders of the Railway Employees Organization
(B) alleged that the government wants to
(C) hand over the rail infrastructure
(D) to the private operators for financial benefit
(a) ADCB   (b) BACD   (c) CDBA
(d) DABC   (e) No rearrangement required

94. (A) China has not yet given
(B) India the go-ahead to send an
(C) to coronavirus hit Wuhan
(D) aircraft with medical supplies
(a) DACB   (b) ABDC   (c) CBDA
(d) BCDA   (e) No rearrangement is required

95. (A) mammals and birds move from
(B) with a change in season, many
(C) one country to another in search of food
(D) and shelter, and for breeding
(a) ACBD   (b) CADB   (c) DABC
(d) BACD   (e) No rearrangement is required

Directions (96-100): In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five options are given. Find out the appropriate word which fits the blank appropriately.

Bumblebees, among the most important pollinators, are in **(96) _____.** Fuzzy and buzzy, they excel at spreading pollen and fertilizing many types of wild flora, as well as crucial agricultural crops like tomatoes, blueberries, and squash. But their numbers are **(97) _____.** New research using a massive dataset found that the insects are far less common than they used to be; in North America, you are nearly 50 percent less likely to see a bumblebee in any given area than you were prior to 1974. Moreover, several once-common species

have **(98)** _____ from many areas they were once found, becoming locally extinct in those places. For example, the rusty patched bumblebee, which used to flourish in Ontario, is no longer found in all of Canada—in the U.S., it's endangered. In a new paper published this week in the journal Science, researchers used a complex modeling process to **(99)** _____ that their **(100)** _____ is driven in large part by climate change. Specifically, the scientists found that in areas that have become hotter in the last generation, or have experienced more extreme temperature swings, bumblebees are less abundant. In Europe, they are 17 percent less plentiful than they were in the early 20th century. The scientists examined the abundance of 66 species across the two continents.

96. (a) extinct   (b) trouble   (c) dropped
    (d) growth   (e) difficult

97. (a) increasing   (b) dripped   (c) removing
    (d) dropping   (e) generating

98. (a) multiplied   (b) concerning   (c) disappeared
    (d) certain   (e) vanish

99. (a) proposed   (b) recommending
    (c) implying   (d) expresses   (e) suggest

100. (a) decline   (b) deteriorate   (c) rejection
    (d) lessen   (e) reduced

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

There are eight employees of a company and all of them are working on eight different designation of a bank viz. Chairman, CFO, GM, DGM, AGM, Manager, Junior Manager and Clerk. All the designations given are to be considered in a given order (as Chairman is considered as Senior-most and Clerk is considered as the Junior-most).

Only two persons are senior to B. One designation lies between B and G. The number of persons junior to G is same as the number of persons senior to C. H is just senior to E, but junior to C. More than four designations lie between H and F. D is junior to A.

1. How many persons are junior to H?
   (a) None   (b) One   (c) More than four
   (d) Four   (e) Three

2. Four of the following five are alike in a certain way and hence they form a group. Which one of the following does not belong to that group?
   (a) A-F   (b) B-A   (c) H-D
   (d) G-A   (e) E-H

3. How many designation gaps are between A and D?
   (a) More than three   (b) Two (c) Three
   (d) One   (e) None

4. Who among the following is just senior to B?
   (a) A   (b) D   (c) C
   (d) E   (e) None of these

5. Who among the following is AGM?
   (a) F   (b) B   (c) G
   (d) D   (e) None of these

Direction (6-8): In each of the questions below are given some statements followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

6. **Statements:** Some Banana are Orange.
          All Orange are Apple.
   Conclusions: I. Some Banana are not Apple.
          II. Some Orange are Banana.

7. **Statements:** Only a few East are North.
          Few North are South.
          All South are West.
   Conclusions: I. All East being North is a possibility.
          II. Some East are West.

8. Statements: Only a few Song are Melody.
          Only a few Melody are Film.
          No Film is Award.
   Conclusions: I. All Song being Film is a possibility.
          II. Some Melody are not Award.

Direction (9-12): Study the following information carefully and answer the questions given below:
In a certain code language:
"Club house near located" is coded as "ol gp ox ot"
"both club view near" is coded as "mt ox sq ot"
"make located house view" is coded as "nk ol gp sq"
"near club view area" is coded as "ot ox sq tm"

9. What is the code for "both" in the given code language?
   (a) ox   (b) sq   (c) mt
   (d) ot   (e) Either (b) or (c)

10. What is the code for "house" in the given code language?
   (a) ol   (b) ox   (c) gp
   (d) Either (a) or (c)   (e) None of these

11. The code "nk" is stands for?
   (a) make   (b) both   (c) area
   (d) club   (e) None of these

12. What may be the possible code for "both house" in the given code language?
   (a) gp mt   (b) mt nk   (c) mt sq
   (d) ox mt   (e) gp sq

Directions (13-17): Study the following information carefully and answer the questions given below:
There are eight persons A, B, C, D, E, F, G and H sitting around a circular table facing towards the centre of the table but not necessarily in the same order.
B sits third to the right of A. Only one person sits between B and D. E faces C who is not an immediate neighbour of B. G sits third to the left of F. A is not an immediate neighbour of F.

13. Who among the following sits to the immediate left of C?
(a) G   (b) D   (c) F
(d) H   (e) None of these

14. Who among the following sits to the opposite of A?
(a) H   (b) G   (c) F
(d) D   (e) None of these

15. How many persons sit between H and G when counted from the left of G?
(a) Two   (b) One   (c) Three
(d) Four   (e) None of these

16. If all the persons sit around the circle in clockwise direction by their names according to English alphabetical order starting from A, then how many persons remain unchanged except A?
(a) Four   (b) One   (c) Three
(d) Two   (e) None of these

17. What is the position of B with respect to H?
(a) Fourth to the left
(b) Fourth to the right
(c) Third to the right
(d) Both (a) and (c)
(e) Both (a) and (b)

Direction (18-20): Study the following information carefully and answer the questions given below:

Point E is in 15m north of Point D. Point F is in 20m north of Point C. Point A is in 35m east of Point F. Point P is in 25m south of Point A. Point E is in 20m east of Point P.

18. What is the direction of point F with respect to point P?
(a) North-west   (b) North-east   (c) South-west
(d) South-east   (e) North

19. Four of the following five are alike in a certain way and hence they form a group. Which one of the following does not belong to that group?
(a) C-P   (b) A-E   (c) A-C
(d) P-D   (e) F-E

20. If point X is 20m south of point C, then what is the total distance between point X and point D?
(a) 40m   (b) 35m   (c) 55m
(d) 65m   (e) 85m

Directions (21-25): Following questions are based on the five numbers given below, Study the given information and answer the following questions.
625 427 189 258 469

21. What is the sum of the 3rd digit of second number from left and 2nd digit of third number from right?
(a) 10   (b) 15   (c) 14
(d) 12   (e) None of these

22. If the position of first and third digits of each of the numbers are interchanged, then which among the following is the highest number?
(a) 258   (b) 469   (c) 189
(d) 427   (e) 625

23. If all the digits in the number are arranged in the descending order within the number from left to right, then which among the following will be the lowest number after rearrangement?
(a) 427   (b) 189   (c) 258
(d) 625   (e) 469

24. What is the product of 3rd digit of 2nd lowest number and 1st digit of 2nd highest number?
(a) 32   (b) 72   (c) 24
(d) 36   (e) None of these

25. If 2 is subtracted from each number then how many numbers thus formed are odd numbers?
(a) One   (b) Two   (c) Three
(d) More than three   (e) None

26. How many such numerals are there in the number '645903287' which will remain at the same position when arranged in ascending order from left to right?
(a) Three   (b) Two   (c) One
(d) Four   (e) None of these

27. If it is possible to make only one meaningful word with the 1st, 3rd, 5th and 11th letters of the word 'INHERITENCE', which would be the third letter of the word from the left? If more than one such word can be formed give 'Y' as the answer. If no such word can be formed, give 'Z' as your answer.
(a) Y   (b) R   (c) I
(d) E   (e) Z

Direction (28-32): Study the following information carefully and answer the questions given below:

Eight persons A, B, C, D, E, F, G and H are buying some products one after another but not necessarily in the same order.
At most two persons are buying products before F. Only one person is buying between D and F. C is buying just before H. One person is buying between C and D. A is buying just before E. B is buying before G and after E.

28. How many persons are buying their products after D?
(a) None
(b) Two
(c) More than three
(d) One
(e) None of these

29. Who among the following is buying just after G?
(a) E   (b) F   (c) B
(d) C   (e) None of these

30. If all the persons are arranged in alphabetical order from left to right starting from A, then find how many persons remains at the same position (excluding A)?
(a) One   (b) None   (c) Two
(d) Four   (e) More than Four

31. Who among the following is buying exactly between D and F?
(a) E   (b) B   (c) A
(d) H   (e) None of these

32. How many persons are buying between E and C?
(a) Five   (b) Four   (c) Three
(d) None   (e) Two

Directions (33-35): In each of the question, relationships between some elements are shown in the statements. These statements are followed by conclusions numbered I and II. Read the statements and give the answer.
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusion I and II follows.

33. Statements: $P > Q \geq R = S < T = U$
Conclusions: I. $Q > S$ II. $S = Q$

34. Statements: $J < D = L \leq K \leq Q \geq R$
Conclusions: I. $J < Q$ II. $L \leq R$

35. Statements: $O > P = G > B \geq X = M \leq H$
Conclusions: I. $G > X$ II. $O > M$

Directions (36-40): Table given below shows the number of male and female participated in an event from five different schools (A, B, C, D & E). Study the table carefully and answer the following questions.

Schools	Male	Female
A	650	450
B	540	420
C	720	500
D	560	450
E	680	320

36. Find average number of female participated from school – A, B & D.
(a) 400   (b) 380   (c) 350
(d) 440   (e) 450

37. Total male participated from school – B & D together are how much more or less than total female participated from school – A & C together?
(a) 150   (b) 110   (c) 170
(d) 120   (e) 240

38. Total male participated from school – B & C together are what percent more or less than total female participated from school – A & D together?
(a) 20%   (b) 60%   (c) 50%
(d) 40%   (e) 30%

39. If total male participated from school – F are 40% more than that of from school – A and ratio of female participated from school – B to that of from school – F is 21:32, then find total students participated from school – F.
(a) 1420   (b) 1550   (c) 1580
(d) 1460   (e) 1490

40. Find total number of male students participated from all the five schools together.
(a) 2860   (b) 3150   (c) 2940
(d) 3200   (e) 3020

Direction (41–45): What will come in the place of question (?) mark in following number series:

41. ?, 100, 150, 375, 1312.5
(a) 100   (b) 200   (c) 150
(d) 400   (e) 50

42. 104, ?, 96, 120, 88, 128
(a) 112   (b) 110   (c) 114
(d) 118   (e) 108

43. 15, 8, 9, 15, 32, ?
(a) 66   (b) 99   (c) 80
(d) 82.5   (e) 80.5

44. 6, 8, 14, 26, 46, ?
(a) 72   (b) 84   (c) 96
(d) 80   (e) 76

45. 72000, 36000, 12000, 3000, 600, ?
(a) 120   (b) 200   (c) 300
(d) 150   (e) 100

46. 12 men can do a work in 10 days while 10 women can do the same work in 18 days. In how many days 4 men & 6 women together can do the same work?
(a) $\frac{120}{7}$ days   (b) 24 days   (c) $\frac{180}{13}$ days
(d) 15 days   (e) 18 days

47. A car can cover a distance in 4 hour at speed 60 kmph then by what percent should the speed of car be increased to cover the same distance in 2.5 hr?
(a) 60%   (b) 40%   (c) 50%
(d) 100%   (e) 75%

48. The ratio of the ages of Ram and Rahim 10 years ago was 1 : 3. The ratio of their ages five years hence will be 2 : 3. Then, the ratio of their present ages is :
(a) 1 : 2   (b) 3 : 5   (c) 3 : 4
(d) 2 : 5   (e) None of these

49. Two trains of length 140m & 120m are running in same direction on parallel tracks with speeds 132 kmph & 80 kmph respectively. How much time will they take to cross each other?
(a) 7.09 sec   (b) 18 sec   (c) 11.7 sec
(d) 4.42 sec   (e) Cannot be determined

50. A person sold a book at 20% profit. If he had bought it at 10% less cost and sold for Rs 90 more then he would have gained 40% profit. Find cost price of book.
(a) Rs 800   (b) Rs 1600   (c) Rs 1500
(d) None of these   (e) Rs 1200

Direction (51–55): In each question two equations numbered (I) and (II) are given. You have to solve both the equations and mark appropriate answer.
(a) If x = y or no relation can be established
(b) If x > y
(c) If x < y
(d) If x ≥ y
(e) If x ≤ y

51. I. $x = \sqrt{25}$ **II.** $y^3 = 125$

52. I. $x^2 + 2x - 35 = 0$ **II.** $y^2 + 15y + 56 = 0$

53. I. $x^2 = 81$ **II.** $y^2 = 64$

54. I. $17x^2 - 14x - 83 = -80$ **II.** $y^2 = 2y + 35$

55. I. $x^2 + 4x - 45 = 0$ **II.** $y^2 - 13y + 40 = 0$

56. A container contains mixture of milk & water in ratio 5 : 3 respectively. If 8 lit milk is added in it then ratio of milk to water becomes 11 : 5. Find difference between initial quantity of milk & that of water.
(a) 5 lit   (b) 38 lit   (c) 18 lit
(d) 30 lit   (e) 10 lit

57. Rs 6000 when invested at a certain rate at SI for 2 years, it fetches Rs 1200. If same sum is invested at same rate for a year compounded half – yearly then find compound interest.
(a) Rs 615   (b) Rs 600   (c) Rs 1200
(d) Rs 585   (e) Rs 1260

58. A boat can cover 28 km downstream in 42 min. ratio of speed of boat in still water to speed of stream is 7 : 3. Find difference between time taken by boat to cover 60 km downstream & 40 km upstream.
(a) 2.25 hr   (b) 1 hr   (c) 1.5 hr
(d) 0.4 hr   (e) 0.9 hr

59. A & B entered into a business by investing total capital of Rs 17000. B withdraws Rs 1500 after 6 months and gets Rs 8100 as profit out of total profit of Rs 19500 at the end of year. Find capital of B after 6 months from starting.
(a) Rs 7000   (b) Rs 9500   (c) Rs 7500
(d) Rs 6000   (e) Rs 6500

60. If length of a rectangle increases by 40% while keeping breadth constant then area of rectangle increased by 24 m² and perimeter of original rectangle is 32 m. find breadth of rectangle.
(a) 8.4 m   (b) 10 m   (c) 6 m
(d) 14 m   (e) 8 m

Direction (61–70): What will come in the place of (?) mark in following question.

61. $280 \div 4 \div 2 = 170 - ?$
(a) 105   (b) 115   (c) 125
(d) 135   (e) 145

62. $(\sqrt{144} + \sqrt{169}) \times 3 = \frac{?}{5}$
(a) 375   (b) 325   (c) 350
(d) 275   (e) 475

63. $(12 \times 5 \div 4) \times 8 = ?$
(a) 100   (b) 140   (c) 120
(d) 80   (e) 90

64. $(120\% \text{ of } 750) \div ? = 25$
(a) 30   (b) 36   (c) 24
(d) 18   (e) 48

65. $8\frac{1}{2} - 4\frac{5}{6} = ? - 3\frac{7}{12}$
(a) $3\frac{1}{4}$ (b) $3\frac{5}{12}$ (c) $2\frac{7}{12}$
(d) $7\frac{1}{4}$ (e) $5\frac{2}{3}$

66. $275 + 64\% \text{ of } 750 = 750 + ?$
(a) 25   (b) 8   (c) 10
(d) 15   (e) 5

67. $\sqrt{225} + \sqrt{81} + 12^2 = ?$
(a) 168   (b) 164   (c) 162
(d) 172   (e) 182

68. $\frac{510}{?} = \sqrt{324} + 3.25$
(a) 12   (b) 48   (c) 24
(d) 6   (e) 18

69. $12.5\% \text{ of } (120 + ?) = 45$
(a) 160   (b) 180   (c) 360
(d) 240   (e) 120

70. $572 \div 13 \times 12 - 16 = (8)^?$
(a) 4   (b) 2   (c) 3
(d) 5   (e) None of these

71. (a); Reading the first paragraph of the passage it can be deduced that the correct answer is option(a). The relevant sentences of the mentioned sentences have been quoted below: "This is why mosquitoes are considered one of the deadliest living creatures on the planet — not because they are lethal themselves, but because many of the viruses and parasites they transmit are."

72. (b); Reading the second paragraph of the passage it can be deduced that the correct answer is option(b). The sentences of the passage which substantiate this are given below: "One such strategy involves the release into the wild of genetically modified (GM) mosquitoes that express a lethal gene — a strategy believed to have little impact on the overall DNA of wild populations of mosquitoes."

73. (e); Reading the last paragraph of the passage it can be deduced that the correct answer is option(e). The relevant sentences of the mentioned sentences have been quoted below: "One significant worry is that a new breed of mosquito might emerge that is more difficult to control. These new genes could also potentially alter evolutionary pressures on viruses carried by mosquitoes, like dengue fever, in unpredictable ways. This includes potentially increasing their virulence or changing their host-insect interactions."

74. (e); Reading the passage carefully we can see that none of the sentences given above are factually correct hence the correct answer will be option (e).

75. (a); Reading the fourth and fifth paras of the passage it can be deduced that the correct answer is option(a). The relevant sentences of the mentioned sentences have been quoted below: "These male GM mosquitoes have what the company describes as a "self-limiting" gene, which means that when these so-called friendly mosquitoes' mate, their offspring inherit the self-limiting gene which is supposed to prevent them surviving into adulthood In theory, when these mosquitoes are released in high numbers, a dramatic reduction in the mosquito population should follow."

76. (a); Among the given words, 'fatal' is the synonym of 'deadliest'. Hence, option (a) is the most suitable answer choice.
Fatal: causing death.
Demeaning: causing someone to lose their dignity and the respect of others.

77. (d); Reading the above passage it can be seen that the correct statements are (a) and (c). The sentences have been quoted below for your reference- "According to research published by Oxitec researchers in 2015, field trials involving recurring releases of Friendly™ mosquitoes **demonstrated a reduction of nearly 95 per cent of target populations in Brazil**. A recent study from the Powell lab at Yale University has since confirmed that some of the offspring of the GM mosquitoes didn't succumb to the self-limiting lethal gene and survived to adulthood. **They were able to breed with native mosquitoes and thereby introduce some of their genes into the wild population."**

78. (c); Hostile means showing or feeling opposition or dislike; unfriendly. Therefore, sentence (ii) and (iii) depict the correct usage of the given word. Hence, option (c) is the most suitable answer choice.

79. (a); Vague means thinking or communicating in an unfocused or imprecise way. Therefore, only sentence (i) depicts the correct usage of the given word. Hence, option (a) is the most suitable answer choice.

80. (d); Escalate means increase rapidly. Therefore, only sentence (iii) depicts the correct usage of the given word. Hence, option (d) is the most suitable answer choice.

81. (c); As we go through the analysis of the sentence, we find that the sentence of option (c) is correct.
(a) replace 'among' with 'between'. Among is used for a greater number.
(b) replace 'case' with 'cases'.
(d) replace' manufacture' with 'manufacturing'.

82. (b); As we go through the analysis of the sentence, we find that the sentence of option (b) is correct.
(a) replace 'rename' with 'renamed'.
(c) replace 'with' with 'for'.
(d) replace 'regulate' with 'regulating'.

83. (d); As we go through the analysis of the sentence, we find that the sentence of option (d) is correct.
(a) replace 'as' with 'for'.
(b) replace 'to' with 'in'.
(c) replace 'there' with 'their'.

84. (e); As we go through the sentences, we find that all sentences are incorrect.
(a) replace 'have' with 'has'.
(b) replace 'resigns' with 'resigned'.
(c) replace 'drink' with 'drank'.
(d) replace 'isn't' with 'aren't'.

85. (a); As we go through the analysis of the sentence, we find that the sentence in option (a) is correct.
(b) replace 'uses' with 'use'.
(c) interchange 'have' with 'you' to maintain the interrogative form of the sentence.
(d) replace 'nothing' with 'anything' because 'barely' will not take 'nothing' after it.

86. (a); Except "balenced" which is spelt as "balanced" all other words are correctly spelt so our answer choice will be option (a).

87. (a) ; Except "pripared" which is spelt as "prepared" all other words are correctly spelt so our answer choice will be option (a).

88. (d); Except "footbal" which is spelt as "football" all other words are correctly spelt so our answer choice will be option (d).

89. (a); Except "looking over" which is grammatically wrong all other words are correctly spelt and are grammatically flawless so our answer choice will be option (a). Replace "looking over" with "look over".

90. (c); Except "fall of" which is spelt as "fall off" all other words are correctly spelt so our answer choice will be option (c).

91. (c); The correct rearrangement of the parts of statement will be "ACBD" which will make a grammatically correct and contextually meaningful statement. Hence, option (c) is the most suitable answer choice. The correct statement thus formed will be:
"The merger of Bharti Infratel and Indus Towers will create the world's second largest tower company."

92. (b); The correct rearrangement of the parts of statement will be "BDCA" which will make a grammatically correct and contextually meaningful statement. Hence, option (b) is the most suitable answer choice. The correct statement thus formed will be:

"The long-awaited trade agreement appears to be off the table during US President Donald Trump's upcoming visit to India."

93. (e); In the given sentence the sentence elaborates on allegations made against the government by leaders of railway employee organisations with respect to their stand on handing over railway infrastructure to private companies. Hence, option (e) is the most suitable answer choice which means the sentence requires no rearrangement. The statement thus formed will be:
"Leaders of the Railway Employees Organization alleged that the government wants to hand over the rail infrastructure to the private operators for financial benefit."

94. (b); The correct rearrangement of the parts of statement will be "ABDC" which will make a grammatically correct and contextually meaningful statement. The given statement talks about India not being granted the permission to send an aircraft carrying medical supplies to the coronavirus hit Wuhan region. The correct statement thus formed will be:
"China has not yet given India the go-ahead to send an aircraft with medical supplies to coronavirus hit Wuhan."

95. (d); The correct rearrangement of the parts of statement will be "BACD" which will make a grammatically correct and contextually meaningful statement. The given sentence talks about migration in animals with changing seasons in search of their basic needs. Hence, option (d) is the most suitable answer choice. The correct statement thus formed will be:
"With a change in season, many mammals and birds move from one country to another in search of food and shelter, and for breeding."

96. (b); The given paragraph is describing the alarming situation of Bumblebees where their numbers are continuously declining. Thus, the most suitable word for the given blank is "trouble". Hence, option (b) is the correct answer choice.

97. (d); The given paragraph is describing the alarming situation of Bumblebees where their numbers are continuously declining. Thus, the most suitable word for the given blank is "dropping". All the other words are contextually incorrect. Hence, option (d) is the correct answer choice.

98. (c); The given paragraph is describing the alarming situation of Bumblebees where their numbers are continuously declining. Thus, the most suitable word for the given blank is "disappeared". All the other words are either grammatically or contextually incorrect. Hence, option (c) is the correct answer choice.

Disappeared means cease to exist or be in use.

Vanish means disappear suddenly and completely.

Certain means able to be firmly relied on to happen or be the case.

99. (e); The most suitable word for the given blank is "suggest". All the other words are either grammatically or contextually incorrect. Hence, option (e) is the correct answer choice.

100.(a); The given paragraph is describing the alarming situation of Bumblebees where their numbers are continuously declining. Thus, the most suitable word for the given blank is "decline". All the other words are either grammatically or contextually incorrect. Hence, option (a) is the correct answer choice.

Solutions (1-5):

Designation	Persons
Chairman	F
CFO	A
GM	B
DGM	C
AGM	G
Manager	D
Junior manager	H
Clerk	E

1. **(b)**   2. **(d)**   3. **(c)**

4. **(a)**   5. **(c)**

6. **(b);**
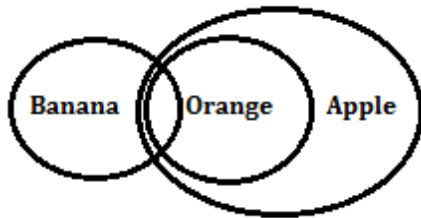
7. **(d);**
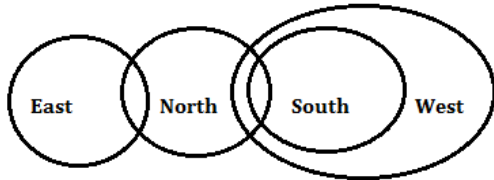
8. **(e);**
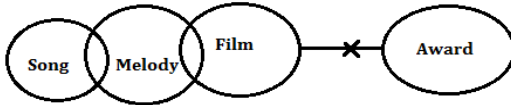
Solutions (9-12):

Word	Code
Club	Ox
Near	Ot
House/Located	Ol/gp
Both	Mt
Make	Nk
Area	Tm
View	Sq

9. **(c)**
10. **(d)**
11. **(a)**
12. **(a)**

Solutions (13-17):
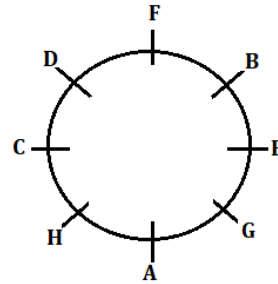
13. **(b);**   14. **(c);**   15. **(b);**
16. **(d);**   17. **(e);**

Solutions (18-20):
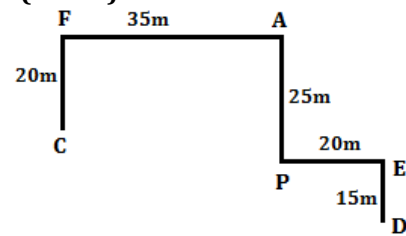
18. **(a);**
19. **(c);**
20. **(c);**
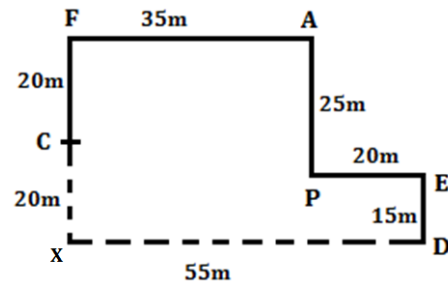
21. **(b);**   22. **(c);**   23. **(d)**

24. **(a);**   25. **(d);**

26. **(c);** 6 4 5 9 0 3 2 8 7
    0 2 3 4 5 6 7 **8** 9

27. **(a);** Hire, Heir

Solutions (28-32):

A > E > F > B > D > G > C > H

28. **(e);**   29. **(d);**   30. **(a);**

31. **(b);**   32. **(b);**

33. **(c); I.** Q > S (False)   **II.** S = Q (False)

34. **(a); I.** J < Q (True)   **II.** L ≤ R (False)

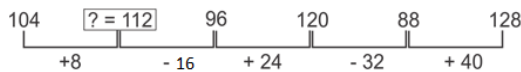35. **(e); I.** G > X (True)   **II.** O > M(True)

36. (d); Required average = $\frac{450+420+450}{3} = 440$

37. (a); Total male participated from school – B & D together = 540 + 560 = 1100
Total female participated from school – A & C together = 450 + 500 = 950
Required difference = 1100 − 950 = 150

38. (d); Total male participated from school – B & C together = 540 + 720 = 1260
Total female participated from school – A & D together = 450 + 450 = 900
Required % = $\frac{1260-900}{900} \times 100 = 40\%$

39. (b); Total students participated from school F = $\frac{140}{100} \times 650 + 420 \times \frac{32}{21}$
= 910 + 640 = 1550

40. (b); Total number of male students participated from all the five schools
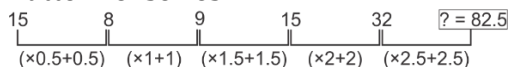= (650 + 540 + 720 + 560 + 680) = 3150
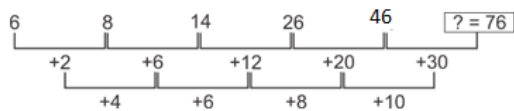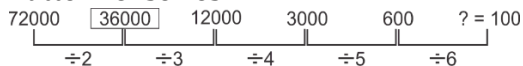
41. (b); Pattern of series –
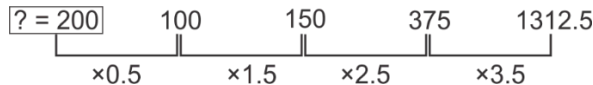
? = 200	100	150	375	1312.5
	×0.5	×1.5	×2.5	×3.5

42. (a); Pattern of series -

104	? = 112	96	120	88	128
	+8	- 16	+ 24	- 32	+ 40

43. (d); Pattern of series -

15	8	9	15	32	? = 82.5
	(×0.5+0.5)	(×1+1)	(×1.5+1.5)	(×2+2)	(×2.5+2.5)

44. (e); Pattern of series -

6	8	14	26	46	? = 76
	+2	+6	+12	+20	+30
		+4	+6	+8	+10

45. (e); Pattern of series -

72000	36000	12000	3000	600	? = 100
	÷2	÷3	÷4	÷5	÷6

46. (d); let total work be 360 units
Efficiency of 1 man = $\frac{360}{12\times10} = 3$ units/day
Efficiency of 1 woman = $\frac{360}{10\times18} = 2$ units/day
Required time = $\frac{360}{4\times3+6\times2} = 15$ days

47. (a); distance = 240 kms
Required speed = $\frac{240}{2.5} = 96$ kmph
Required % = $\frac{96-60}{60} \times 100 = 60\%$

48. (b); Let 10 years ago, ages of Ram and Rahim were x years and 3x years, respectively.
Then, present age of Ram = (x + 10)
and present age of Rahim = (3x + 10)
According to the question,
$\frac{x+10+5}{3x+10+5} = \frac{2}{3}$
⇒ 3x + 45 = 6x + 30
⇒ 3x = 15
∴ x = 5
Hence, required ratio $= \frac{5+10}{3\times5+10}$
$= \frac{15}{25} = 3 : 5$

49. (b); required time = $\frac{140+120}{(132-80)\times\frac{5}{18}}$
$= \frac{260\times18}{52\times5} = 18$ sec

50. (c); let CP of book be Rs x
SP = Rs 1.2x
New CP = Rs 0.9x
New SP = Rs 1.2x + 90
ATQ, $0.9x \times \frac{140}{100} = 1.2x + 90$
1.26x = 1.2x + 90
x = Rs 1500

51. (a); **I.** x = 5
II. y = 5
So, x=y

52. (d); **I.** $x^2 + 7x - 5x - 35 = 0$
x (x + 7) – 5 (x + 7) =0
(x + 7) (x – 5) = 0
x = −7, 5
II. $y^2 + 7y + 8y + 56 = 0$
y(y + 7) + 8(y + 7) = 0
(y + 7) (y + 8) = 0
y = − 8, −7
So, x≥y

53. (a) **I.** x = ± 9
II. y = ± 8
So, no relation can be established

54. (a); **I.** $17x^2 – 14x – 3 = 0$
$17x^2 – 17x + 3x – 3 = 0$
17x (x – 1) + 3(x – 1) = 0
(17x + 3) (x – 1) = 0
x = $-\frac{3}{17}$, 1
II. $y^2 – 2y – 35 = 0$
$y^2 – 7y + 5y – 35 = 0$
y(y −7) + 5(y − 7) = 0
y = 7, - 5
So, no relation can be established

55. (e); I. $x^2 + 9x - 5x - 45 = 0$

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

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

$x = 5, -9$

II. $y^2 - 5y - 8y + 40 = 0$

$y(y - 5) - 8(y - 5) = 0$

$(y - 5)(y - 8) = 0$

$y = 5, 8$

So, $x \leq y$

56. (e); let initial quantity of milk & water be 5x & 3x lit respectively

ATQ, $\frac{5x+8}{3x} = \frac{11}{5}$

$25x + 40 = 33x \Rightarrow x = 5$

required difference = 5x – 3x = 2x = 10 lit

57. (a); let rate of interest be R%

ATQ, $1200 = \frac{6000 \times R \times 2}{100}$

R = 10%

Since compounding is done half-yearly, rate of interest = 5%

Effective rate of interest = $5 + 5 + \frac{5 \times 5}{100} = 10.25\%$

Required interest = $\frac{6000 \times 10.25 \times 1}{100}$ = Rs 615

58. (b); let speed of boat in still water & speed of stream be 7x & 3x kmph respectively

ATQ, $\frac{28}{7x+3x} = \frac{42}{60}$

x = 4

Required difference = $\frac{40}{7x-3x} - \frac{60}{7x+3x} = \frac{4}{x}$ = 1 hour

59. (d); let amount invested by A be Rs x

Profit ratio; A : B = $(x \times 12) : (17000 - x) \times 6 + (15500 - x) \times 6$

= 2x : (32500 – 2x)

ATQ, $\frac{19500}{32500-2x+2x} \times (32500 - 2x) = 8100$

32500 – 2x = 13500

x = Rs 9500

Required capital of B after 6 months

= 15500 – x = Rs 6000

60. (c); let length & breadth of rectangle be x & y m respectively

ATQ, 1.4xy – xy = 24

xy = 60 ....(i)

also, 2(x + y) = 32

x + y = 16 ....(ii)

from (i) & (ii)

x = 10 m, y = 6 m

breadth of rectangle = 6 m

61. (d); ? = 170 – 35

? = 135

62. (a); $(12 + 13) \times 3 = \frac{?}{5}$

? = 375

63. (c); ? = $(3 \times 5) \times 8$

? = 120

64. (b); $\left(\frac{120}{100} \times 750\right) \div ? = 25$

? = 900 ÷ 25

? = 36

65. (d); ? = $(8 - 4 + 3) + \frac{6-10+7}{12}$

? = $7\frac{1}{4}$

66. (e); $275 + \frac{64}{100} \times 750 = 750 + ?$

275 + 480 = 750 + ?

? = 5

67. (a); ? = 15 + 9 + 144

? = 168

68. (c); $\frac{510}{?} = 18 + 3.25$

? = 24

69. (d); $\frac{12.5}{100} \times (120 + ?) = 45$

120 + ? = 360

? = 240

70. (c); $44 \times 12 - 16 = (8)^?$

$528 - 16 = (8)^?$

? = 3