

ENGLISH LANGUAGE

Directions (1-7) : In each of these questions, a sentence has been divided into four parts denoted by (A), (B), (C) and (D). Read the sentence and find out if there is any grammatical error in it. The error if any will be in one part of the sentence. Select that part as your answer. If there is 'no error' in the sentence, select 'No error' as your answer.

- As per airline industry, (A)/ regulations oxygen masks are (B)/ to be made available for everyone on (C)/ a flight the cases of an emergency. (D)
(1) No error (2) (C)
(3) (B) (4) (D)
(5) (A)
- Due to increasing customer (A)/ demand, the organisation need (B) to hire more employees (C)/ to manufacture their goods. (D)
(1) (B) (2) (D)
(3) (A) (4) (C)
(5) No error
- Due to rapid population growth (A)/ in the area, the city council (B)/ has approves the release (C)/ of funds for a new school. (D)
(1) (C) (2) No error
(3) (A) (4) (B)
(5) (D)
- At the workplace, opinion boxes are (A)/ a form of democracy through they allow (B)/ workers to express their opinions (C)/ about their jobs and work environments (D).
(1) (B) (2) (A)
(3) (D) (4) (C)
(5) No error
- The inauthentic painting looked (A)/ so many like the replica that it (B)/ was hard for even the art expert (C)/ to differentiate between the two. (D)

- (1) (C) (2) No error
(3) (D) (4) (A)
(5) (B)

- A car with a automatic transmission (A)/ will shift gears appropriately (B)/ while driving, without any (C)/ input from the driver (D).
(1) No error (2) (B)
(3) (C) (4) (A)
(5) (D)
- The restoration of the windows (A)/ was needed in the old historic (B)/ house to prevent the (C)/ draft of air from entering the rooms (D).
(1) (B) (2) (C)
(3) (A) (4) (D)
(5) No error

Directions (8-10) : In each of the following questions, a word given in **bold** at the question place has been used in different sentences. You have to find out the sentence(s) in which the word has been correctly and meaningfully used and choose the appropriate option accordingly.

8. OBLIQUE

- (A) She made several oblique references to the current financial situation.
(B) All banks oblique people to repay their loans or take the chance of their credit being ruined.
(C) The absent-minded couple acted oblique to the mess their child made in the restaurant and continued happily with the meal.
(1) Only (A) and (B)
(2) Only (B)
(3) Only (A)
(4) Only (C)
(5) None

9. BALANCE

- (A) This newspaper maintains a good balance in its presentation of different opinions.

- (B) Senior managers stipulates work-life balance as their main criterion when choosing jobs.
(C) The clerk was unable to account for the deficit in the firm's bank balance.
(1) None
(2) Only (A)
(3) All (A), (B) and (C)
(4) Only (A) and (C)
(5) Only (C)

10. COURSE

- (A) Outside the golf club, members were working hard to prepare the course for open week.
(B) The students of the management course learn about all aspects of business.
(C) She did not like the outfit as it was made of course cloth.
(1) None
(2) Only (B) and (C)
(3) All (A), (B) and (C)
(4) Only (A)
(5) Only (A) and (B)

Directions (11-14) : In each of these questions, a sentence has been given and five words have been given in **bold** denoted by (A), (B), (C), (D) and (E). You have to decide which of the given pairs correctly indicates the pair of words which should be interchanged to make the sentence grammatically and meaningfully correct without changing the meaning of the sentence. If the sentence is correct as it is and no interchange is required, select 'No interchange is required' as your answer.

- If the retroactive tax legislation is **passed** (A), small businesses will **receive** (B) a tax **refund** (C) for **overpayments** (D) made in the **previous** (E) year.
(1) C-D and B-C
(2) A-C
(3) C-E
(4) A-B and D-E
(5) No interchange is required

12. Scientists **experiment** (A) the **performed** (B) over a hundred **disproved** (C) and each time there was a single **variable** (D) in their results that **times** (E) their theory.

- (1) No interchange is required
- (2) A-B and C-E
- (3) A-C
- (4) C-D and B-C
- (5) B-E

13. Although a **inventory** (A) of the organisation's **budget** (B) is **allocated** (C) for employee salaries, over half is used to **purchase** (D) new **quarter** (E).

- (1) A-D and B-E
- (2) B-C and D-E
- (3) A-E
- (4) B-D
- (5) No interchange is required

14. It took the **jury** (A) almost five hours to **accused** (B) a majority **verdict** (C) and acquit the **reach** (D) on all three **charges** (E).

- (1) No interchange is required
- (2) B-D
- (3) A-B and D-E
- (4) A-E and B-C
- (5) C-D

Directions (15-20) : In each of the given sentences a word/phrase has been given in **bold**. Which of the following word/phrase given against the sentence should replace the word/phrase given in **bold** in the sentence to make it grammatically correct? If none of the words/phrase is/are correct and the sentence is correct as it is given and no correction is required, select "No correction required" as the answer.

15. The best thing for patient is **watch** and advise the doctor immediately in case of any change.

- (1) to be watched
- (2) as to watch
- (3) is to be watchful
- (4) was being watched
- (5) No correction required

16. The analysis of the samples **provided valuable clues** to the police.

- (1) was provided valuable clues
- (2) has valued clues by
- (3) to give value the clue

(4) providing value clue

(5) No correction required

17. The government plans the **ending to war** by sending in additional troops.

- (1) ends off war
- (2) to end the war
- (3) is to end war
- (4) the war ended
- (5) No correction required

18. Using robot greatly **decreases** the amount of **time that needs** to manufacture a product.

- (1) may need time to
- (2) will not need time
- (3) time to need on
- (4) time needed to
- (5) No correction required

19. The high-school students quickly **finds a solution** to the problem.

- (1) No correction required
- (2) by finding a solution
- (3) found a solution
- (4) might find solution of
- (5) solution is found

20. Trained dogs guide the blind to **made sure** they allow their blind owners to walk only in safe places.

- (1) No correction required
- (2) they are sure to make
- (3) for making it sure
- (4) surely make it
- (5) by making sure

Directions (21-25) : Rearrange the given FIVE sentences (A), (B), (C), (D) and (E) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.

(A) This online medium of imparting knowledge also gives the opportunity to interested companies to really take the education and learning experience to the next level.

(B) Today's classrooms are 'smart' packed with technology, from tablet computers and wide-screen televisions to interactive whiteboards.

(C) Their personalization of the education experience also gives the teaching faculty, access to how the student is responding to this new learning experience, which they can use to

further improve their methods and content.

(D) Apart from the gadgets in these smart classrooms, the last few years have also seen the development of Massive Open Online Courses (MOOCs), from renowned institutions.

(E) It allows these companies to truly personalize the education experience in a way that both improves learning outcomes and shortens the learning time.

21. Which of the following should be the **FIRST** sentence after the rearrangement?

- (1) D
- (2) B
- (3) E
- (4) A
- (5) C

22. Which of the following should be the **THIRD** sentence after the rearrangement?

- (1) A
- (2) E
- (3) B
- (4) D
- (5) C

23. Which of the following should be the **SECOND** sentence after the rearrangement?

- (1) A
- (2) E
- (3) B
- (4) C
- (5) D

24. Which of the following should be the **FOURTH** sentence after the rearrangement?

- (1) C
- (2) D
- (3) E
- (4) B
- (5) A

25. Which of the following should be the **LAST (FIFTH)** sentence after the rearrangement?

- (1) B
- (2) E
- (3) C
- (4) D
- (5) A

Directions (26-34) : Read the following passage carefully and answer the question words given. Certain words have been given in **bold** to help you locate them while answering some of the given questions.

The number of satellites currently in orbit above the Earth is over 1,800. These satellites perform important functions that many of us use every day. For example, all our SatNav devices rely on satellites in geostationary orbit at a height of 36,000 km. Most of the TV pro-

grammes we watch are **beamed** to us by satellite. Less obviously, an increasing amount of our internet traffic is handled via networks of satellites. Several companies are providing broadband in rural and isolated regions using medium-sized satellites in low-earth-orbit (up to about 1,000km). And as we move into a new era when private companies are planning to launch thousands of satellites to improve these services and add additional ones, it is true to say that space is becoming crowded.

Why does this matter? Isn't space huge? Well, yes, and no. The issue is that there are a limited number of preferred orbits and as these become more populated with satellites they also become more populated with debris — bits and pieces that have fallen off the rockets bringing satellites into orbit. If these collide with a satellite they have the capacity to destroy it in **an instant**. And the _____ is even worse. The more debris, of any size, that we dump into orbit, the more collisions will result, generating more debris in an upward spiral that could threaten the sustainability of our use of space. Worryingly, we could find ourselves in a position within a decade in which new satellite launches are severely restricted because of the amount of debris in space. Satellites play a key role in realising the Sustainable Development Goals that were unanimously adopted at the UN in 2015. They help monitor and predict the path of disruptive weather events. They can spot fires or flooding. They provide emergency communications in the remotest of areas. And they provide incontrovertible data on the march of climate change and its influences on the Earth's ecosystems. As satellite technology improves, so too does their ability to help us live sustainably. So any threat to the sustainability of the growing fleet of satellites acts to reduce our capability to live **sustainably** on the surface of our planet. We need to act now before the situation deteriorates — there is time, but actions are required.

Sustainability of the land and sea is in our blood — *but in a world where technology and climate are changing faster than ever, we would do well to add "space" to the list.*

26. Which of the following benefits of satellites is not mentioned in the passage?

- (1) They are immensely helpful in establishing emergency communication with remote areas.
- (2) They are used for accurate census calculation.
- (3) They provide important data on climate change and its influence.
- (4) They help in assessing the damage wreaked by disasters.
- (5) All the given options are benefits of satellites mentioned in the passage.

27. Which of the following examples does not include the use of satellites in day to day situations?

- (A) Tracking of illegal fishing vessels by coast guards to stop their activities.
 - (B) Tom, a college student has invited his friends for a party by posting it on social media.
 - (C) After the complaints of a foul smell by the residents of the community, the engineers manually checked and detected a leak in a pipeline before it could result in a disaster.
- (1) Only (B)
 - (2) Only (B) and (C)
 - (3) All (A), (B) and (C)
 - (4) Only (C)
 - (5) Only (A) and (B)

28. Which of the following is/are author's view(s) regarding the satellite technology?

- (A) India is not doing enough to ramp up its space capabilities in order to be seen as a global space power.
 - (B) Improvement in satellite technology improves our ability to live sustainably.
 - (C) We should discontinue the deployment of satellites with immediate effect.
- (1) Only (A) and (C)
 - (2) Only (A)

- (3) All (A), (B) and (C)
 - (4) Only (B)
 - (5) Both (A) and (B)
29. In the passage there is a blank _____ which indicates that something has been omitted. Which of the following words will fit the given blank both contextually and grammatically?

- (1) events
 - (2) predict
 - (3) instructions
 - (4) print
 - (5) situation
30. Which of the following is the **OPPOSITE** in meaning to the word **SURFACE** as used in the passage?
- (1) facade
 - (2) disappear
 - (3) area
 - (4) None of those given as options
 - (5) exterior

31. Which of the following can replace the word **BEAMED** as used in the passage grammatically and contextually?

- (1) None of those given as options
- (2) broadcast
- (3) radiate
- (4) smiled
- (5) emit

32. Which of the following can replace the word **AN INSTANT** as used in the passage grammatically and contextually?

- (1) immediate
- (2) fast
- (3) the blink of an eye
- (4) urgent
- (5) momentary

33. What does the author want to convey through the sentence given in italics in the passage "*but in world where technology and add "space" to the list*"?

- (1) Solar power is the new challenge alongside increasing intrusion of technology and climate change.
- (2) None of the given options
- (3) We need to stop and think about the positive change technology is bringing to our lives.

(4) Technology and climate control are the most important factors to bring the change in world.

(5) The emphasis on technology and climate change needs to be put on hold to give importance to space ventures.

34. Which of the following theme(s) is/are touched upon in the passage?

(A) The factors giving rise to climate change.

(B) The adverse effects of increasing use of electronic appliances on satellites.

(C) Worsening situation of space orbits.

(1) Only (A) and (C)

(2) All (A), (B) and (C)

(3) Only (C)

(4) Only (B)

(5) Only (A) and (B)

Directions (35-36) : In each of these questions two columns I and II and three sentences are given which are divided in two parts. Column I (A, B and C) consists of the first half of each sentence and Column II (D, E and F) consists of the second half of each sentence. Match Column I with Column II so that the sentences formed are both meaningful and grammatically correct. In the options various combinations are given. Choose the option that consists of the combination (s) of Column I and II that form both meaningful and grammatically correct sentence(s).

35. Column-I

A. The flaws in the design concept

B. Government employees swear an

C. The advertisements are intended

Column-II

D. To improve the company's image

E. have make the building unstable

F. oaths not to reveal official secrets

(1) A-E

(2) A-E, B-F and C-D

(3) C-E

(4) A-F and B-E

(5) C-D

36. Column-I

A. The theory of evolution has been

B. A little forward planning at the

C. Evolution can explain the past, but

Column-II

D. It can never predict the future

E. debated for hundreds of years

F. outset can save you a lot of expense

(1) A-F and B-E

(2) A-E, C-D & B-F

(3) B-D (4) C-E

(5) C-D

Directions (37-42) : Each sentence has a blank which indicates something has been omitted. Which of the following words given against the sentence, fits the blank in the given sentence both grammatically and meaningfully?

37. The holiday party for three hundred guests will _____ a lot of work from the event planner.

(1) inverse (2) demanded

(3) result

(4) consequence

(5) entail

38. The control of inflation is a _____ component of the government's economic policy.

(1) key (2) important

(3) devised (4) schedule

(5) formulating

39. The doctor has agreed to do everything possible to _____ the athlete's recovery so he will be able to start his football season on time.

(1) expedite (2) hinder

(3) clinched (4) assured

(5) insured

40. The officer was _____ because he embezzled millions of rupees from the organisation where he worked.

(1) deposits (2) arrested

(3) forcefully (4) acquit

(5) deliberately

41. All financial institutions must have an insurance _____ in case of theft or natural disaster.

(1) provision (2) sufficient

(3) requirements

(4) protect

(5) conditions

42. Accusations of judicial malpractice _____ to the judge's removal from the bench.

(1) led (2) caused

(3) reason (4) resulted

(5) met

Directions (43-50) : In the given passage, there are blanks, each of which has been denoted by (A), (B), (C), (D), (E), (F), (G) and (H). Against each five words are suggested, one of which fits the blank appropriately. Select the word that fits the blank appropriately and select that word as your answer.

Have you ever woken up and thought - Ugh, I didn't want to go to work today? Work can be less than (A) at times, however there are many benefits to having a (B) attitude at the office. Your attitude is a form of expression of yourself. You can choose to be happy, positive and optimistic, or you can choose to be pessimistic and critical, with a negative outlook on your workday. A positive attitude helps you (C) better under stressful situations at work. Workplace attitudes have an (D) on every person in the organisation, from the employees to the clients and even the company owner. Attitudes help to develop the prevailing workplace environment that determines employee morale, productivity and team building abilities. A negative attitude in the workplace (E) an atmosphere of distrust among employees and causes employees to attempt to achieve success at the (F) of each other. On the other hand, in a workplace with a positive attitude, competition is seen as a motivator that (G) employees to perform at their best to improve productivity, and encourages creativity so they feel that their ideas will contribute to the (H) of the organisation.

43. What will replace (A) in the passage?

(1) satisfied (2) negligible

(3) fairer (4) pleasant

(5) accepted

44. What will replace (B) in the passage?

(1) poor (2) forwarded

(3) considerable

(4) upbeat

(5) constructive

46. What will replace (C) in the passage?
 (1) brave (2) accept
 (3) counters (4) cope
 (5) deals
47. What will replace (D) in the passage?
 (1) effect (2) act
 (3) affect (4) encourage
 (5) develop
48. What will replace (E) in the passage?
 (1) destroys (2) segregates
 (3) creates (4) constant
 (5) succeeds
49. What will replace (F) in the passage?
 (1) expense (2) value
 (3) costs (4) result
 (5) damage
50. What will replace (G) in the passage?
 (1) withholds (2) open
 (3) form (4) inspires
 (5) prevents
51. What will replace (H) in the passage?
 (1) failures (2) expand
 (3) success (4) downfall
 (5) addition

QUANTITATIVE APTITUDE

51. A and B both start a business. The sum invested by B is Rs. 200 more than that invested by A. Six months after the start of the business, B leaves the business. If the total annual profit earned is Rs. 2800, out of which A receives Rs. 1600, what is the amount invested by A?
 (1) Rs. 250 (2) Rs. 400
 (3) Rs. 800 (4) Rs. 500
 (5) Rs. 600

Directions (52-57) : Study the following table carefully and answer the given questions.

The given table is regarding the number of males and females in four societies A, B, C and D

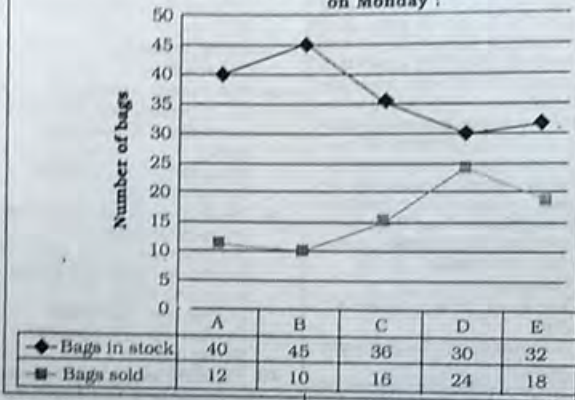
Societies	Number of Females	Percentage of Males
A	220	60%
B	280	30%
C	105	40%
D	250	50%

52. What is the average number of people (male + female) in societies A, B and C?
 (1) 315 (2) 390
 (3) 375 (4) 320
 (5) 405
53. The number of males in society B is what per cent less than the number of males in society D?
 (1) 57 (2) 50
 (3) 62 (4) 52
 (5) 59
54. What is the respective ratio between the number of males in society A and that in society B?
 (1) 12 : 5 (2) 11 : 4
 (3) 8 : 3 (4) 5 : 2
 (5) 7 : 3

55. What is the total number of males in societies B, C and D together?
 (1) 440 (2) 420
 (3) 470 (4) 460
 (5) 490
56. What is the difference between the number of people (male + female) in societies A and C?
 (1) 245 (2) 350
 (3) 325 (4) 225
 (5) 375
57. In another society E, the number of females is 20% more than that in society D and the number of males is 10% more than that in society B. What is the number of people (male + female) in society E?
 (1) 440 (2) 460
 (3) 490 (4) 432
 (5) 428

Directions (58-63) : Refer to the following graph and answer the given questions.

The graph depicts the number of bags in Stock and number of bags sold by 5 stores on Monday :



58. What is the respective ratio between the number of bags that were sold by store B and that which remained unsold in the same store?
 (1) 3 : 14 (2) 9 : 14
 (3) 2 : 7 (4) 4 : 7
 (5) 4 : 9
59. What is the difference between the total number of bags that remained unsold in stores A and E together and that in stores C and D together?

- (1) 12 (2) 16
 (3) 15 (4) 17
 (5) 14
60. The number of bags in stock in store F was 18 more than that in store C. If one-sixth of the number of bags in stock were sold by store F, what was the number of bags that remained unsold in store F?
 (1) 40 (2) 50
 (3) 35 (4) 45
 (5) 30

61. What is the average number of bags that were in stocks of stores B, C and D?

(1) 35 (2) 37
(3) 36 (4) 38
(5) 34

62. On Tuesday, equal number of bags were sold by stores E and C. If the total number of bags that remained unsold in stores E and C together on Tuesday was 18, what was the number of bags that were sold by store E on Tuesday? (Note : No new stock was added on Tuesday)

(1) 4 (2) 6
(3) 12 (4) 10
(5) 8

63. Out of the number of bags in stock in store E, what per cent of bags were sold ?

(1) 58.5 (2) $56\frac{1}{4}$

(3) 55.5 (4) $52\frac{1}{4}$

(5) 50

64. Train A crosses a platform 420 metre long in 52 seconds at the speed of 54 kmph. For train B which is of half the length of train A, time taken to cross a 300 metre long train at 72 kmph is (in seconds)

(1) 15 (2) 18
(3) 16 (4) 12
(5) 24

Directions (65-70) : Refer to following the pie chart carefully and answer the given questions :

Percentage-wise Distribution of a total of 1800 animals sold by a pet shop in 6 years



65. What is the average number of animals sold in the years 2016, 2017 and 2018 ?

(1) 390 (2) 388
(3) 394 (4) 392
(5) 387

66. What is the difference between the number of animals sold in the years 2013 and 2016 together and that in the years 2015 and 2017 together?

(1) 294 (2) 302
(3) 296 (4) 288
(5) 306

67. What is the central angle corresponding to the number of animals sold in the year 2016 ?

(1) 86.4° (2) 78.2°
(3) 90° (4) 79.8°
(5) 80.2°

68. If 35% and 25% of animals sold in 2014 and 2015 respectively were rabbits, total how many rabbits were sold in 2014 and 2015 together ?

(1) 102 (2) 90
(3) 104 (4) 95
(5) 99

69. In 2013, if 10% of animals available in the pet shop were unsold, how many animals were unsold in 2013 ?

(1) 30 (2) 24
(3) 34 (4) 28
(5) 32

70. Equal number of animals sold in 2017 and 2018 were white coloured. If respective ratio between the number of non-white coloured animals sold in 2017 and that in 2018 was 4 : 7, how many white coloured animals were sold in 2018 ?

(1) 144 (2) 48
(3) 90 (4) 36
(5) 72

71. The area of a rectangle is 216m^2 with the respective ratio between its length and breadth as 3 : 2. The diameter of a circle is $\frac{1}{6}$ th of the breadth of

the rectangle. What is the difference between the area of the rectangle and that of the circle? (in m^2)

(1) 62 (2) 66
(3) 70 (4) 68
(5) 60

72. If 10 men and 20 women can complete a given task in 24 hours and efficiency of one woman is half of that of one man, in how many hours can 60 women complete the same work ?

(1) 20 (2) 30
(3) 16 (4) 27
(5) 21

73. Ram and Shyam both save 30% and 44% of their monthly incomes respectively. The amount they spent each month is equal. The difference between monthly incomes of Ram and Shyam is Rs. 5000. What is Ram's monthly income ?

(1) Rs. 20000
(2) cannot be determined
(3) Rs. 30000
(4) Rs. 36000
(5) None of those given as options

74. Jar Y has a mixture of two kinds of liquids L and M in the respective ratio of 3 : 4. When 4 litres of L and 6 litres of M are added to the jar Y, the respective ratio between new quantities of L and M becomes 8 : 11. If 19 litres of final mixture is poured into another jar X, what is the remaining quantity of M in jar Y ? (in litres)

(1) 22 (2) 18
(3) 14 (4) 11
(5) 8

75. Mona invests Rs. P in scheme A (offering 12% p.a. simple interest) for 2 years and Rs. 2P in scheme B (offering 15% p.a. simple interest) for 3 years. If the difference between the interests earned from both the schemes is Rs. 1320, what is the value of P ?

(1) 6000 (2) 5000
(3) 2000 (4) 4000
(5) 2200

76. 40% of the total number of students in a school are in primary classes. $\frac{1}{5}$ th of the remaining students are in secondary classes and the remaining 1200 are in higher second-

ary classes. What is the total number of students in the school?

- (1) 3500 (2) 2250
(3) 3000 (4) 2500
(5) 2000

77. Mini is 6 years younger than P and also Mini is 6 years older than Q. Twelve years hence the respective ratio between the ages of P and Q at that time will be 4 : 3. What is the sum of present ages of P and Q? (in years)

- (1) 50 (2) 42
(3) 48 (4) 64
(5) 60

78. The value of a car depreciates by 15% each year. For a car purchased in 2016 for Rs. 240000, what will be the value of the car at the end of two years? (in Rs.)

- (1) 173400 (2) 175920
(3) 156000 (4) 147000
(5) 172100

79. Out of the total distance of 180 km, a car travels one-third of it at a speed of 30 km/hr and remaining distance at the speed of 40 kmph. What is the average speed of the car? (in km/hr)

- (1) 38 (2) 35
(3) 36 (4) 32
(5) 34

Directions (80-84) : What will come in place of question mark (?) in the given number series?

80. 8 9 17 26 90 ?

- (1) 121 (2) 109
(3) 115 (4) 125
(5) 111

81. 96 48 72 180 ? 2835

- (1) 570 (2) 630
(3) 579 (4) 612
(5) 484

82. 13 14 30 93 ? 1885

- (1) 364 (2) 388
(3) 382 (4) 356
(5) 376

83. 1252 250 62 20 ? ?

- (1) 13 (2) 7
(3) 11 (4) 12
(5) 9

84. 15 21 32 48 69 ?

- (1) 85 (2) 103
(3) 100 (4) 89
(5) 95

Directions (85-89) : In the following questions two equations numbered I and II are given. You have to solve both the equations and

Give answer (1) if $x > y$

Give answer (2) if $x \geq y$

Give answer (3) if $x < y$

Give answer (4) if $x \leq y$

Give answer (5) if $x = y$ or the relationship between x and y cannot be established.

85. I. $x^2 + 8x + 12 = 0$

II. $y^2 + 14y + 45 = 0$

86. I. $2x^2 - 11x + 15 = 0$

II. $y^2 - 3y + 2 = 0$

87. I. $6x^2 + 17x + 12 = 0$

II. $3y^2 + 11y + 10 = 0$

88. I. $2x^2 - 3x + 1 = 0$

II. $5y^2 - 6y - 8 = 0$

89. I. $2x^2 - 5\sqrt{2}x + 4 = 0$

II. $3y^2 - 6\sqrt{3}y + 5 = 0$

Directions (90-95) : What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value.)

90. $\frac{31.94}{1.98^3} + \frac{42.04}{?} = 7$

- (1) 21 (2) 7
(3) 14 (4) 18
(5) 12

91. $7.02 \times 4.99 - 3.09 \times ? = 2.02^3$

- (1) 27 (2) 9
(3) 18 (4) 15
(5) 3

92. $(1.99 + 5.02)^2 - (1 + ?) = 10.93 \times 3.05$

- (1) 11 (2) 19
(3) 15 (4) 7
(5) 22

93. $\frac{14.12 + 7.98}{3.05 + 8.01} \times 2.98^2 = ?$

- (1) 12 (2) 30
(3) 24 (4) 18
(5) 9

94. $33.87 + 19.98 - ? - 8.97 = 6.11$

- (1) 39 (2) 46
(3) 26 (4) 32
(5) 20

95. $\frac{44.97}{2.99 + 2.03} \times 3^? = \frac{1}{81}$

- (1) -6 (2) -5
(3) -4 (4) 3
(5) 4

96. If the length of a rectangle is increased by 15% and the breadth is decreased by 12% what is the percentage change in the area of the rectangle?

- (1) 2.4% decrease
(2) 1.2% increase
(3) 1.8% decrease
(4) 1.2% decrease
(5) 1.8% decrease

97. A tap can fill a tank completely in 8 hours. After half the tank is filled, one more similar tap is opened. What is the total time taken to fill the tank completely?

- (1) 6 hours
(2) $6\frac{1}{2}$ hours

- (3) $5\frac{1}{2}$ hours

- (4) $7\frac{1}{2}$ hours

- (5) 7 hours

98. The perimeter of a rectangle is x cm. and circumference of a circle is 8 cm. more than the perimeter of the rectangle. The ratio of radius of circle and length of the rectangle is 1 : 2 and the ratio of length and breadth of rectangle is 7 : 3. Find the length of the rectangle. (in cm.)

- (1) 14 (2) 21
(3) 28 (4) 35
(5) 7

99. The average marks in Science subject of a class of 20 students is 68. If the marks of two students were misread as 48 and 65 of the actual marks 72 and 61 respectively, then what would be the correct average?

- (1) 68.5 (2) 69
(3) 69.5 (4) 70
(5) 66

100. The average runs scored by a batsman in forty-five matches were 42 runs. The difference between his highest and lowest runs scored was 114. If those two matches (in which he scored the highest and the lowest runs) are excluded, his average score will be 40. What will be his lowest score?

- (1) 25 (2) 32
(3) 34 (4) 28
(5) 36

REASONING

Directions (101-103) : Each question given below consists of a question and two statements numbered I and II given below it. You have to decide whether the data given in the statements are sufficient to answer the questions. Read both the statements and choose the most appropriate option.

Give answer (1) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

Give answer (2) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

Give answer (3) if the data in statement I alone or in statement II alone are sufficient to answer the question.

Give answer (4) if the data in both the statements I and II are not sufficient to answer the question.

Give answer (5) if the data in both the statements I and II together are necessary to answer the question.

101. In a certain code language, how is ROAM coded?

I. In the given code language, MEALS is coded as *#Ω%@ and STORE is coded as @.#π&#

II. In the given code language, BLAST is coded as C%Ω@▲ and BOARS is coded as CπΩ&@

102. Five people- A, B, C, D and E were born on five different days of the same week starting from Monday and ending on Friday. Only one person was born on each day. On which day was C born?

I. B was born on one of the days after Wednesday. Only one person was born between B and D. E was born immediately before D. As many people were born before E as after A.

II. E was born on one of the days before Wednesday. Only two people were born between E and B. No one was born between A and B. C was born on one of the days before A.

103. Six people- K, L, M, P, Q and R are sitting in a straight line facing north. What is the position of M from the right end of the line?

I. P sits at an extreme end of the line. Only three people sit between P and Q. K sits third to the right of R. M is an immediate neighbour of K.

II. Q sits second from one of the extreme ends of the line. Only one person sits between Q and K. M sits to the immediate left of P. R sits at one of the positions to the left of P.

104. How many such pairs of letters are there in the word 'STADIUM', each of which has as many letters between them in the word (in both forward and backward directions) as they have between them in English alphabetical order?

(1) More than four

(2) Two

(3) Three

(4) One

(5) Four

105. In this question, a statement followed by two Courses of action numbered I and II is given. On the basis of the information given in the statement, you have to assume everything in the statement to be true and then decide which of the suggested courses of action logically follows for pursuing.

Statement : The incidence of thieves posing as salespersons and committing theft during day-time in locality B have been increasing in the past six months.

Course of Action I : Only the salespersons selling items of daily use should be allowed to enter the locality B.

Course of Action II : Authorities should direct the police patrolling teams in locality B to be more alert and also to increase the frequency of patrolling.

(1) Only Course of Action I follows

(2) Either Course of Action I or II follows

(3) Only Course of Action II follows

(4) Both Courses of Action I and II follow

(5) Neither Course of Action I nor II follows

Directions (106-110) : Study the following information carefully and answer the questions given below :

In a certain code language, 'jump from the terrace' is coded as 'vh se ct ku'

'high terrace garden made' is coded as 'em pt ct rd'

'made them jump twice' is coded as 'un em ku ws'

'raise them high above' is coded as 'jo le pt un'

(Note: All codes are two letter codes only)

106. What may be the code for 'flipped high twice' in the given code language?

(1) aj ku em (2) aj ws pt

(3) pt aj le (4) ws jo pt

(5) ct ws vh

107. How is 'jump' coded in the given code language?

(1) ct (2) ws

(3) ku (4) vh

(5) un

108. What is the code for 'above' in the given code language?

(1) Either 'le' or 'jo'

(2) ws

(3) pt

(4) un

(5) Either 'em' or 'ku'

109. What does the code 'un rd' stand for in the given code language?

(1) made them

(2) the jump

(3) from terrace

(4) raise jump

(5) garden them

110. If in the given code language, 'made from cotton' is coded as 'za em se', then how will 'the cotton' be coded in the same code language?

(1) vh jo (2) rd em

(3) za ct (4) za vh

(5) em le

111. If only one meaningful four letter English word can be formed using the second, fourth, sixth and seventh letters (when counted from left to right) of the word 'COMPARED'

(using each letter only once), what would be the third letter of the word so formed from the left?

If no such word can be formed mark X as your answer and if more than one such words can be formed then mark Z as the answer.

- (1) O (2) X
(3) P (4) Z
(5) R

Directions (112-115): Study the following information carefully and answer the questions given below :

Seven people work in three different countries viz. Hong Kong, Brazil and Argentina with at least two and not more than three people working in each country. Each of them likes a different colour.

(Note: Please note that in the given information if it is stated that 'A' works with the one who likes 'b' then it means that 'A' and the one who likes 'b' work in the same country and also that 'A' does not like 'b'.)

P works with the one who likes Blue but not in Argentina. Q works with only R but not in Argentina. The one who likes Black works with both T and S. Neither T nor S likes Blue. U works with only the one who likes Grey. V works with the one who likes Orange. S does not like Orange. The one who likes Green and the one who likes Red work in different countries. R does not like Green. Q neither likes Red nor Green. The one who likes Purple does not work in Brazil.

112. Four of the following five are alike in a certain way as per the given arrangement and thus they form a group. Which one of the following does not belong to that group?

- (1) S - Orange
(2) V - Green (3) Q - Red
(4) T - Blue
(5) R - Purple

113. Who amongst the following work in Brazil?

- (1) P and V
(2) V, T and the one who likes Blue
(3) The one who likes Blue and P

- (4) R, S and the one who likes Purple
(5) The one who likes Grey and Q

114. Who amongst the following likes Purple?

- (1) The one who works with the one who likes Black
(2) U
(3) P
(4) The one who works in Argentina
(5) The one who works only with R

115. Which of the following statements is/are not true as per the given information?

- (1) The one who likes Blue works in Hong Kong.
(2) The one who likes Red works with the one who likes Orange.
(3) V works in Argentina.
(1) Only A
(2) Only A and B
(3) Only B and C
(4) Only C
(5) All, A, B and C

Directions (116-120): Study the following information carefully and answer the questions given below :

Each of eight people - E, F, G, J, K, X, Y and Z - lives on a different floor of an eight storeyed building where the lowermost floor is numbered one, the one above that is numbered two and so on till the topmost floor is numbered eight. Only one person lives on each floor. Each one of them has an exam on the same date but at different times.

G lives on an odd numbered floor on one of the floors below floor number five. Only two people live between G and the one who has an exam at 2:00 p.m. The one who has an exam at 3:00 p.m. lives immediately below the one who has an exam at 2:00 p.m. As many people live above Y as below the one who has an exam at 3:00 p.m. Only three people live between Y and Z. No one lives between Z and the one who has an exam at 5:30 p.m. Only one person lives between E and the one who has an exam at 5:30 pm. Only three people live between E and K. The one who lives on the lowermost floor has an exam one and a half hours after the one who lives on floor num-

ber six. No one lives between the one who has an exam at 4 pm and the one who has an exam at 3:30 pm. K does not have an exam at 3:30 pm. F lives immediately above the one who has an exam at 10:00 am. J lives on one of the floors above X but on one of the floors below the one who has an exam at 09:00 am. Z has an exam one hour before F.

116. How many people live between X and G?

- (1) More than three
(2) Two
(3) Three
(4) One
(5) None

117. As per the given arrangement, which of the following combinations is CORRECT?

- (1) All the given combinations are correct
(2) Z - Floor number eight
(3) F - 3:30 pm
(4) Floor number three - 8:00 am
(5) X - 2:00 pm

118. Who lives on the topmost floor?

- (1) F
(2) The one who has an exam at 5:30 pm
(3) E
(4) Z
(5) The one who has an exam at 2:00 pm

119. Who has an exam at 4:00 pm?

- (1) F (2) J
(3) K (4) Y
(5) X

120. At what time does Z have an exam?

- (1) 10:00 am (2) 4:30 pm
(3) 8:00 am (4) 7:00 am
(5) 1:00 pm

Directions (121-123): Study the following information carefully and answer the questions given below :

Five people viz. A, B, C, D and E are all of a different height. Each of them is wearing a shirt of different colour.

Only two people are shorter than A. A is shorter than the one who is wearing a blue shirt. E is taller than only the one who is wearing a green shirt. The one who is wearing a yellow shirt is taller than

A but shorter than D. C is taller than B. The one who is wearing a red shirt is shorter than the one who is wearing a pink shirt.

121. Which of the following statements is/are true as per the given arrangement?

- (A) C is taller than the one who is wearing a blue shirt.
(B) B is wearing a green shirt.
(C) D is the tallest amongst the given people.
(1) Only B and C
(2) Only C
(3) All A, B and C
(4) Only B
(5) Only A

122. If the height of the one who is wearing a pink shirt is 167 cm and the height of D is 174 cm, what is probably the height of C?

- (1) 165 cm (2) 155 cm
(3) 170 cm (4) 162 cm
(5) 175 cm

123. Who amongst the following is wearing a red shirt?

- (1) D (2) C
(3) A (4) E
(5) B

Directions (124–126) : Study the following information carefully and answer the questions given below :

A is the brother-in-law of D. D is the daughter of F. F has only two children. Only one of the child's of F is married. G is the only grandson of F. H is the only sibling of G. S is the mother of only A and B. B is the father of H.

124. How is H related to D?

- (1) Daughter
(2) Sister
(3) Granddaughter
(4) Wife (5) Niece

125. How is S related to G?

- (1) Niece
(2) Aunt
(3) Grandmother
(4) Sister-in-law
(5) Daughter

126. If X is the uncle of G, how is X related to B?

- (1) Brother
(2) Son-in-law
(3) Brother-in-law
(4) Father-in-law
(5) Nephew

Directions (127–130) : Study the following information carefully and answer the questions given below :

Nine boxes are kept one above the other in a stack. Only four boxes are kept between box A and box B. Only three boxes are kept between box B and box C. No box is kept between box C and box E. Only two boxes are kept between box E and box D. Box F is kept immediately below box D. Only one box is kept between box G and box H. Only two boxes are kept between box G and box K.

127. How many boxes are kept below box K?

- (1) Three (2) Two
(3) Four (4) Six
(5) Five

128. Which of the following box/es is/are kept between box A and box F?

- (1) Only box D
(2) Only box C
(3) Both box D and box E
(4) Both box C and box H
(5) Only box E

129. As per the given arrangement, Box H is related to Box C in the same way as Box E is related to Box D following a certain pattern. Following the same pattern, to which Box is Box K related?

- (1) G (2) A
(3) B (4) F
(5) E

130. Which box is kept immediately below box C?

- (1) Other than those given as options
(2) Box H (3) Box F
(4) Box A (5) Box G

Directions (131–135) : Study the following information carefully and answer the questions given below :

Seven people are sitting around a circular table facing the centre. Each one of them is of a different age.

B sits to the immediate right of the 15 year old. Only two people sit between B and C (either from left or right). The 21 year old sits second to the left of C. G is an immediate neighbour of the 21 year old. The 30-year old sits second to the left of G. Only three people sit be-

tween R and the 30 year old (either from left or right). The 9 year old sits second to the left of R. V sits to the immediate right of S. The sum of the present ages of S and F is 46 years. S is older than F. The sum of the present ages of the immediate neighbours of S is 50 years. The difference between the present ages of R and C is 5 years.

131. What is the sum of present ages of V and B (in years)?

- (1) 45
(2) 40
(3) None of the given options
(4) 51
(5) 39

132. Which of the following statements is/are true with respect to the given information?

- (A) The sum of the present ages of R and G is 44 years.
(B) S sits third to the left of G.
(C) B is an immediate neighbour of the 30 year old.
(1) Both (B) and (C)
(2) All (A), (B) and (C)
(3) Only (A)
(4) Only (B)
(5) Both (A) and (B)

133. Who sits to the immediate left of R?

- (1) The 25 year old
(2) C
(3) F
(4) The 9 year old
(5) B

134. As per the given arrangement, B is related to G in the same way as C is related to S following a certain pattern. Following the same pattern, to whom is R related?

- (1) The 9 year old
(2) B
(3) C
(4) V
(5) The 40 year old

135. What is the age (in years) of the one who sits to the immediate right of B?

- (1) 40 (2) 25
(3) 30 (4) 15
(5) 21

136. Four of the following five are alike in a certain way based on their positions in the English alphabetical order and thus

they form a group. Identify the one which does not belong to the group.

- (1) TVY (2) OMS
(3) FDJ (4) IGM
(5) DBH

Directions (137-140) : Study the following information carefully and answer the questions given below :

A certain number of people are sitting in a straight line facing north.

M sits fourth to the right of G. The one who likes Pink sits second to the right of M. Only two people sit between M and P. Q sits sixth to the right of P. Only four people sit to the right of Q. As many people sit between Q and the one who likes Pink as between the one who likes Pink and the one who likes Yellow. Q does not like Yellow. The one who likes Yellow sits sixth from one of the extreme ends of the line. The one who likes Green sits second to the right of the one who likes Yellow. T sits fourth to the right of the one who likes Green. T does not sit at an extreme end of the line. No one sits between T and the one who likes Blue. Only two people sit between the one who likes Blue and the one who likes Black. Only six people sit between X and the one who likes Black.

137. How many people are sitting between M and the one who likes Green?

- (1) Seven (2) Two
(3) Ten (4) Five
(5) None

138. What is the position of X from the right end of the line?

- (1) Seventh (2) Second
(3) Ninth (4) Fourth
(5) Eleventh

139. How many people are sitting in the given line?

- (1) 24 (2) 18
(3) 20 (4) 21
(5) 12

140. Which of the following colour does P like?

- (1) Cannot be determined
(2) Yellow
(3) Pink
(4) Green
(5) Black

141. Read the following information carefully and answer the given question.

Company B has in a contract with Compfy (a retail store dealing in office furniture) from the past three years. The contract is due for renewal in the next month. Despite Compfy offering a flat discount of 20% on new purchases upon renewal of the contract, Company B decided to give the contract to a relatively new retailer FurNfix in the market.

Which of the following weakens the decision of Company B of choosing FurNfix over Compfy?

- (1) Unlike free delivery policy of FurNfix, Compfy charges flat Rs. 1000 for delivery of each order despite it being located in the vicinity of Company B.
(2) Compfy uses a special foam in all its items which needs to be replaced every six months thereby making the item comparatively expensive in the long run.
(3) The quality of furniture provided by FurNfix has been questioned in the past by many of its customers.
(4) Unlike Compfy, FurNfix being a relatively new player in the market has a wide variety of furniture in terms of designs and colours.
(5) As per demands of its employees, Company B has been requesting ergonomic chairs from the past few months which cannot be fulfilled by Compfy.

Directions (142-144) : Study the following information carefully and answer the questions given below :

Point G is 30m to the south of Point H. Point M is 25m to the east of Point G. Point R is 25m to the west of Point H. Point J is 50m to the south of Point R. Point X is 60m to the east of Point J. Point Y is 10m to the west of Point X.

142. In which direction is Point G, with respect to Point J?

- (1) South-East
(2) West

- (3) South-West
(4) North-East
(5) North-West

143. Four of the following five are alike in a certain way based on their directions and thus they form a group. Identify the one which does not belong to the group.

- (1) M-R (2) X-M
(3) X-G (4) Y-R
(5) J-H

144. How far is Point Y from Point M?

- (1) 25 m (2) 40 m
(3) 20 m (4) 30 m
(5) 15 m

Directions (145-147) : Four statements are given which are followed by five conclusions. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given Conclusions logically follow/s.

145. Statements :

- All caps are lids.
Only a few lids are envelopes.
All envelopes are packets.
Only a few packets are bags.
(1) None of the given Conclusions logically follow
(2) All caps can never be packets.
(3) Some envelopes are bags.
(4) No cap is an envelope.
(5) All lids being bags is a possibility.

146. Statements :

- No addition is a multiplication.
Only a few multiplications are divisions.
All divisions are tractors.
Only a few tractors are cycles.
(1) All multiplications being cycles is a possibility.
(2) All divisions being additions is a possibility.
(3) No addition is a tractor.
(4) All the given Conclusions logically follow.
(5) Atleast some divisions are cycles.

147. Statements :

- Only a few balls are nets.
All nets are covers.
No cover is a wrap.
All wraps are rolls.

- (1) All balls can never be wraps.
- (2) All the given Conclusions logically follow.
- (3) All nets being rolls is a possibility.
- (4) Atleast some balls are covers.
- (5) All rolls can never be covers.

Directions (148-150) : In each of the following questions, relationship between different elements is shown in the statements. The statements are followed by two Conclusions numbered I and II. Study the Conclusions based on the given statements and select the appropriate answer.

Give answer (1) if only Conclusion I is true

Give answer (2) if only Conclusion II is true

Give answer (3) if either Conclusion I or Conclusion II is true

Give answer (4) if neither Conclusion I nor Conclusion II is true

Give answer (5) if both the Conclusion I and Conclusion II are true

148. Statements :

$$E > F = G \geq H, S \leq G \geq T$$

Conclusions :

I. $T \geq H$

II. $E > S$

149. Statements :

$$A \geq B = C > D; M \leq B < K$$

Conclusions :

I. $D < M$

II. $A > K$

150. Statements :

$$P = Q > R > S; R \leq Z < J$$

Conclusions :

I. $J > P$

II. $Z > S$