

IBPS SPECIALIST (I.T.) OFFICER EXAM 2013

Based on Memory

REASONING ABILITY

DIRECTIONS (Qs. 1-5) : In each of the following questions two/three statements are given followed by two Conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read both the conclusions and then decide which of the given conclusions logically and definitely follows from the given statements disregarding commonly known facts.

1. Statements

All beans are pulses
All pulses are crops.
No crop is seed.

Conclusions:

- I. All crops are pulses.
- II. All beans are crops.
- (a) Only Conclusion II follows.
- (b) Neither Conclusion I nor Conclusion II follows.
- (c) Either Conclusion I or Conclusion II follows
- (d) Only Conclusion I follows
- (e) Both Conclusion I and Conclusion II follow.

(Qs. 2-3) Statements

No fruit is vegetable
All potatoes are vegetables.
Some fruits are apples.

2. Conclusions:

- I. Some apples are potatoes
- II. Some potatoes being fruits is a possibility.
- (a) Both Conclusion I and Conclusion II follow.
- (b) Only Conclusion II follows
- (c) Either Conclusion I or Conclusion II follows
- (d) Only Conclusion I follows
- (e) Neither Conclusion I nor Conclusion II follows.

3. Conclusions:

- I. No fruit is a potato.
- II. Atleast some apples are fruits.
- (a) Both Conclusion I and Conclusion II follows
- (b) Either Conclusion I or Conclusion II follows
- (c) Only Conclusion II follows
- (d) Neither Conclusion I nor Conclusion II follows.
- (e) Only Conclusion I follows

4. Statements

All books are journals.
All diaries are journals.

Conclusions:

- I. All journals are books.
- II. Some diaries being books is a possibility.
- (a) Either Conclusion I or Conclusion II follows
- (b) Only Conclusion I follows
- (c) Both Conclusion I and Conclusion II follows
- (d) Neither Conclusion I nor Conclusion II follows.
- (e) Only Conclusion II follows

5. Statements

All beans are pulses.
All pulses are crops.
No crop is seed.

Conclusions:

- I. No seed is a bean.
- II. No bean is a pulse.
- (a) Both Conclusion I and Conclusion II follow.
- (b) Neither Conclusion I nor Conclusion II follows.
- (c) Only Conclusion I follows.
- (d) Either Conclusion I or Conclusion II follows
- (e) Only Conclusion II follows

DIRECTIONS (Qs. 6) : Read the given statements carefully and answer the question given below:

6. The project of the road construction (work) has crossed its first deadline as far as pre-monsoon road works are concerned. In the major city the road works are given great emphasis and these are the places where road work has been completed.

Which of the following can be concluded from the statements given above?

- (a) The start the work of the road one has to go through a lot of tiresome paperwork before starting the repair work which delays the whole work of the road
- (b) It takes several hours while travelling via these roads.
- (c) The work of the road is going on
- (d) They will start the road works well in advance
- (e) None of these

DIRECTIONS (Qs. 7-8) : Read the following information carefully and answer the questions which follow:

Supermarkets are growing at a fast pace than Kirana Stores. Kirana Stores are such places where customer go to purchase their necessities. In place of five Kirana stores one or two supermarkets are being established. It has been found that customers' requirements are looked after by trained staff. It has been found that food products are low life products which are manufactured from local manufacturers. These products are typically purchased by the customer on the assurance. The markets is appealing to supermarkets and retail outlet owners are setting up their business in other areas where there are less Kirana stores.

7. Which of the following can be a good argument in favour of shopping, from Kirana stores instead of supermarkets?
 - (a) People prefer supermarkets because they offer a larger range of products. i.e., products other than FMCG and they can buy everything under one roof.
 - (b) People end-up buying other irrelevant things along with those on their shopping lists in Supermarkets and then they have to stand in long queues at the billing counters.
 - (c) Most Kirana stores are closed atleast one day in a week whereas supermarkets are open 365 days a year.
 - (d) Kirana stores do not accept debit and credit cards.
 - (e) Very few Kirana stores sell products at a bargained price.
8. Which of the following can be inferred from the given information? (An inference is something that is not directly stated but can inferred from the given information).
 - (a) Most supermarkets and retail outlet owners choose to set up businesses in areas that have very few Kirana stores.
 - (b) People tend to trust retail outlets and supermarkets when it comes to buying high value products as opposed to buying them from local shops.
 - (c) If there are two or more Kirana stores in a typical residential area the competition among them is very high.
 - (d) Kirana stores owners are buying to acquire franchisee of supermarkets as the local shops have lost their charm and business.
 - (e) Kirana stores do not sell the products which consumers on their regular shopping lists, so they have to depend on supermarkets.

DIRECTIONS (Qs. 9-11) : Read the following information carefully and answer the questions given below:

Among five persons - P, Q, R, S and T – each has different height. Only two persons are shorter than S. T is shorter than S but taller than R. The one who is the second tallest among them is of 158 centimetre.

9. Which of the following statements is definitely true with respect to the given information?
 - (a) R is definitely 150 cm.
 - (b) None of the given statements is true
 - (c) T is shorter than S
 - (d) Q is shorter than S
 - (e) P is possibly 153 cm

10. Which of the following is possibly the height of Q?
 - (a) 148 cm
 - (b) 156 cm
 - (c) 152 cm
 - (d) 150 cm
 - (e) 158 cm

11. How many persons are shorter than Q?
 - (a) Two
 - (b) Three
 - (c) Four
 - (d) Cannot be determined
 - (e) One

DIRECTIONS (Qs. 12-13) : Read the following statements carefully and answer the questions given below:

Mobile technology has played great role in growth and development of society. Earlier cellphone was used as a medium of conversation only. Now mobile phones also support a wide variety of other services, such as, texting, email, internet access etc. The price of mobile phones is also decreasing and people are being encouraged to buy a mobile phone set at a cheaper rate. The mobile technology and smartphones have the capabilities of handling video calls, sharing large files. Mobile technology had made it more efficient to conduct business. Video calls and taking photographs have become possible as mobile phone has in built camera. Therefore, there is no need to carry around a camera everywhere you go,.

12. Which of the following cannot be inferred from the given information? (An inference is something that is not directly stated but can be inferred from the given information)
 - (a) One can share photos and videos via mobile phones provided that the other person has a similar device.
 - (b) Many features are being added to mobile phones now-a-days
 - (c) The other features of mobile phones are used as useful as the built in camera
 - (d) Mobile phones can be used for purposes other than making calls
 - (e) Technological advances are taking place in fields other than cellphones as well.
13. Which of the following can be concluded from the given information?
 - (a) Buying a phone with a camera is more convenient than buying two different devices.
 - (b) Mobile phones that are basic last longer than the ones with added features
 - (c) Not many people are interested in clicking pictures with mobile phones
 - (d) It is possible to share pictures with someone having a similar camera
 - (e) No one will buy camera now onwards.

DIRECTIONS (Qs. 14-15) : Study the following information to answer the given questions.

'TRAVEL' is related to 'UDKUSB' and 'CORNER' is related to 'MDQDPS'.

14. 'SURVEY' is related to _____.
 - (a) UDXSTV
 - (b) UXDTSTV
 - (c) TVSUDX
 - (d) UDXTVS
 - (e) UDXVTS
15. 'GROUPS' is related to _____.
 - (a) TORHSP
 - (b) TOHRSP
 - (c) TORPHS
 - (d) ROTHSP
 - (e) ROTPHS

DIRECTIONS (Qs. 16-20) : Study the following information to answer the given questions.

In a certain code '8 2 9' means 'how art thou', '9 5 8' means 'thou art good' and '1 5 8 7 3' means 'thy good' and 'thou bad'.

16. What may be the possible code for 'thy'?
 (a) 1 or 7 (b) 7
 (c) 3 (d) 5
 (e) 1 or 7 or 3
17. What is the code for 'thou'?
 (a) 9 (b) 8
 (c) 2 (d) 5
 (e) None of these
18. What is the code for 'how'?
 (a) 5 (b) 8
 (c) 2 (d) 9
 (e) None of these
19. Which of the following may possibly be the code for 'thou no good'?
 (a) 5 0 8 (b) 7 8 0
 (c) 5 0 7 (d) 7 0 8
 (e) None of these
20. What is the code for 'how good thou art'?
 (a) 7 5 8 9 (b) 8 2 9 5
 (c) 7 1 8 3 (d) 8 7 9 5
 (e) None of these
21. **Effect:** The temple at the religious site wears a deserted look with the number of devotees trickling down.
 Which of the following can be a possible causes of the above effect?
 (a) A structural engineer had visited the temple a month back and had declared the structure unsafe.
 (b) The temple is facing drastic depletion of its funds which had accumulated over the years due to offerings made by devotees.
 (c) The local corporation decided to donate a huge amount of money to the temple for its renovation.
 (d) The village housing the religious site has qualified priests to perform religious ceremonies.
 (e) A famous actor recently visited the temple and paid his respects to the deity.
22. **Statements:** The Income Tax authorities carried out raids at three different business houses in the city last week.
 Which of the following can be a possible effect of the above statement?
 (a) The three business houses are regular defaulters in payment of their income tax.
 (b) The Income Tax department had received a tip off about the illegal activities going on in the three business houses.
 (c) The Government decided to look into the matter and has appointed an inquiry committee
 (d) Other business houses took immediate action to clear off all their income tax dues in order to avoid a raid on their establishments.
 (e) The authorities intend to conduct raids in several other business houses in the vicinity.

23. **Effect:** As a step to regulate private hospitals, the static health department is framing rules to ensure all such hospitals are registered with it.

Which of the following can be a possible cause of the above statement?

- (a) The department realised the private hospitals charge much less for treatment as compared to government hospitals.
- (b) Government run hospitals do not maintain the same standards as private hospitals.
- (c) The department realised that several hospitals were rejecting cases stating lack of infrastructure.
- (d) Apart from the number of doctors, nurses and beds, the kind of procedure a hospital can carry out based on its infrastructure will also be registered and detailed.
- (e) Private hospitals nor registering with the department shall be forced to do so and will have to pay hefty penalties.
24. **Statement:** The constable has been recommended for a suitable reward by his superior in recognition of his sincere duty and busting of several gangs of criminals actively involved in the loot and incidents of pick-pocketing.
 Which of the following can be a possible **assumption** of the above statement?
 (a) The superior is certain that the recommendation would be denied.
 (b) The number of criminals apprehended by this particular constable was exceptionally high.
 (c) The constable desires to be monetarily compensated for his efforts.
 (d) The superior wants to set an example for his other juniors by recommending the reward.
 (e) Rewards recognising the sincerity and accomplishments of policemen are given.
25. **Statement:** The college has finally received accreditation and has gained the status of a deemed university.
 Which of the following can be a possible **effect** of the above statement?
 (a) The principal of the college will now have to be retired government official.
 (b) Number of students seeking admission to this college in the next academic year would drop significantly.
 (c) The college will charge lesser fees from all the students despite not getting a grant from the government
 (d) The college will reduce the number of courses that it runs by a significant margin.
 (e) The reputation of the college amongst the student population in general has improved.

DIRECTIONS (Qs. 26-27) : In these questions, relationship between different elements is shown in the statements. These statements are followed by two conclusions.

Mark answer	If
(a)	Only conclusion I follows.
(b)	Only conclusion II follows.
(c)	Either conclusion I or II follows.
(d)	Neither conclusion I nor II follows.
(e)	Both conclusion I and II follows.

26. **Statement:** $E < F \leq G = H > S$

Conclusions:

- I. $G > S$
- II. $F \leq H$

27. **Statement:** $P \leq Q < W = L$

Conclusions:

- I. $L > P$
- II. $Q \leq L$

DIRECTIONS (Qs. 28-30) : Study the following information to answer the given questions:

A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule. The following is an illustration of input and rearrangement.

(All numbers in these questions are two digit numbers)

Input : 16 today 32 waiting 21 are 11 people 46 bus 66 long

Step I : 16 today 32 waiting 21 11 people 46 bus 66 long are

Step II : 16 today 32 waiting 21 people 46 bus 66 long 11 are

Step III : 16 today 32 waiting 21 people 46 66 long bus 11 are

Step IV : today 32 waiting 21 people 46 66 long 16 bus 11 are

Step V : today 32 waiting people 46 66 21 long 16 bus 11 are

Step VI : today 32 waiting 46 66 people 21 long 16 bus 11 are

Step VII : today waiting 46 66 32 people 21 long 16 bus 11 are

Step VIII : waiting 46 66 today 32 people 21 long 16 bus 11 are

Step IX : waiting 66, 46 today 32 people 21 long 16 bus 11 are

Step X : 66 waiting 46 today 32 people 21 long 16 bus 11 are

Step X is the last Step of the arrangement of the above input as the intended arrangement is obtained.

Now, answer the questions based on the following input.

Input: 23 you 13 wake 81 me 43 before 72 go 34 up

28. Which of these words / numbers would be fourth (from left side) in step IV for the input

- (a) me
- (b) 48
- (c) 81
- (d) wake
- (e) None of these

29. The following stands for which step of the rearrangement?
you wake 81 43 72 34 up me 23 go 13 before

- (a) Step IX
- (b) Step IV
- (c) Step VI
- (d) Step V
- (e) None of these

30. Which of the following would be Step II for the above input?

- (a) 23 you wake 81 me 43 72 34 up go 13 before
- (b) 23 you 13 wake 81 me 43 72 go 34 up before
- (c) 23 you wake 81 me 43 72 go 34 up before 13
- (d) 23 you wake 81 me 43 72 go 34 up 13 before
- (e) None of these

DIRECTIONS (Qs. 31-35) : Below is given a passage followed by several possible inferences which can be drawn from the facts stated in the passage. You have to examine each inference separately in the context of the passage and decide upon its degree of truth or falsity.

Mark answer (a) If the inference is “**definitely true**” i.e. it properly follows from the statement of facts given.

Mark answer (b) If the inference is “**probably true**” though not “**definitely true**” in the light of the facts given.

Mark answer (c) If the data is inadequate i.e. from the facts given, you cannot say whether the inference is likely to be true or false.

Mark answer (d) If the inference is “**probably false**” though not “**definitely false**” in the light of the fact given.

Mark answer (e) If the inference is “**definitely false**” i.e., it can not possibly be drawn from the facts given or it contradicts the given facts.

(Note: Each of the five questions has only one distinct answer i.e., no two questions can have the same answer. If you get the same answer for more than one question, consider both again and decide which one of the two would more definitely be that answer and in the same way review the others also).

Cardiovascular disease is so prevalent that virtually all businesses are likely to have employees who suffer from, or may develop, this condition. Research shows that between 50-80 percent of all people who suffer a heart attack are able to return to work. However, this may not be possible if they have previously been involved in heavy physical work. In such cases, it may be possible to move the employee to lighter duties, with appropriate retraining where necessary. Similarly, high-pressure, stressful work, even where it does not involve physical activity, should also be avoided. Human Resource managers should be aware of the implications of job roles for employees with a cardiac condition.

31. Employees who suffer from cardiovascular disease are mostly unable to return to work.

32. Employees suffering from Cardiovascular diseases are unable to handle stressful situations.

33. Employees above the age of 50 are found to suffer from cardiovascular disease.

34. Physical and stressful work definitely leads to a heart attack.

35. Heart disease can affect employees in any type of business.

DIRECTIONS (Qs. 36-40) : Study the following information to answer the given questions:

J, P, Q, R, S, T, U and V are four married couples sitting in a circle facing the centre. The profession of the males within the group are lecturer, lawyer, doctor and scientist. Among the males, only R (the lawyer) and V (the scientist) are sitting together. Each man is seated besides his wife. U, the wife of the lecturer is seated second to the right of V. T is seated between U and V. P is the wife of the doctor. Q is not the doctor. S is a male.

36. Which of the following is P's position with respect to S?

- (a) Second to the right
- (b) Second to the left
- (c) Immediate right
- (d) Immediate left
- (e) Third to the left

37. Which of the following is J's position with respect to T?

- (a) Third to the left
- (b) Fourth to the right
- (c) Third to the right
- (d) Opposite T
- (e) Second to the right

38. Which of the following is **not true** regarding the couples?

- (a) P is the wife of S
- (b) T is the wife of Q
- (c) R is the husband of J
- (d) J and S are seated adjacent to each other
- (e) All are true

39. The wives of which two husbands are immediate neighbours?
- (a) UT (b) SR
(c) VQ (d) RV
(e) None of these
40. Four of the following are alike in a certain way based on their seating position in the above arrangement and so form a group. Which is the one that **does not** belong to the group?
- (a) RSJ (b) TRV
(c) UTV (d) SQP
(e) UPQ

DIRECTIONS (Qs. 41-44) : Study the following information to answer the given questions:

Seven friends T, U, V, W, X, Y and Z are sitting in a straight line facing north. W sits fifth to the right to T. W does not sit at any of extreme ends. Two people sit between Z and X. Y sits third to the left of U. Y sits exactly in the middle. Z is not an immediate neighbour of Y.

41. What is the Z's position with respect to W?
- (a) Second to the left (b) Third to the right
(c) Fourth to the left (d) Third to the left
(e) Fourth to the right
42. Who is second to the right of T?
- (a) Y (b) X
(c) U (d) V
(e) None of these
43. Four of the following five are alike in a certain way based on their seating positions in the above line and so form a group, which is the one that does not belong to the group?
- (a) UW (b) XV
(c) ZT (d) YV
(e) WX
44. If all the seven friends are made to sit alphabetically from right to left. Positions of how many will remain unchanged?
- (a) None (b) One
(c) Two (d) Three
(e) Four

DIRECTIONS (Qs. 45-47) : Read the given statements carefully and answer the questions which follow.

45. After the government announced a compensatory policy for farmers in return for the acquisition of their land, the farmers demanded a written proof of the policy. Which of the following could possibly be a **Cause** for demanding the written proof?
- (a) The farmers were unable to contest the inadequate compensation for their land in earlier such policies.
(b) The compensation promised in the policy was grossly inadequate.
(c) The farmers were unwilling to surrender their lands to the government.
(d) The farmers demand a certain percentage of share out of the revenue generated by the government off their lands.
(e) The only option to enforce the government officials to frame a compensatory policy for the farmers was to demand a proof.

46. The number of cases concerning a non-contagious chemical poisoning is on the rise among the local villagers. Which of the following could possibly be a **Cause** of the statement given above?
- (a) The government has ordered an immediate enquiry into the matter.
(b) Unless timely treatment is provided to the patients, the poisoning can prove to be fatal.
(c) Many factories surrounding the village do not dispose off their wastes appropriately.
(d) The only hospital in the area is not equipped to treat chemical poisoning related ailments
(e) A study done a couple of years ago had reported that a large number of farmers had stopped using chemical fertilizers owing to their ill-effects on health.
47. Small grocery shop owners have gone on a day's strike in order to protest against the entry of a foreign retail store chain in the city. Which of the following statements can be an **Effect** of the statement given above?
- (a) The small grocery shop owners perceive the big retail giants as sharks, trying to dominate the available market space.
(b) Foreign investment in retail has shown a tremendous growth in India since a couple of years.
(c) There have been several countries in which retail chain giants have totally wiped out small scale grocery shop.
(d) The government agreed to take all political steps required to safeguard the interests of small scale retailers.
(e) A recent survey indicated that a large number of people prefer to buy their daily grocery stores rather than big retail chain stores.

DIRECTIONS (Qs. 48-50) : Read the following statements carefully and answer the questions which follow.

48. The ministry of sports has been advised by a committee to take the highest award in the field of sports back from two players who were allegedly-involved in match fixing. Which of the following statements would **weaken** the argument put forward by the committee to the sports ministry?
- (a) A good conduct in the past and a lack of evidence against the players make the case against them very weak.
(b) The ministry of sports has never declined the recommendations made by the committee earlier.
(c) Taking the award back from the players would set a good example to other players for avoiding such actions in the future.
(d) There have been past cases where the award had to be taken back from the players owing to some misconduct later on.
(e) The committee is constituted of some of the most respected from the fields of sports and politics.
49. Many organizations have been resorting to recruitment based upon performance at graduate post-graduate level exams rather than conducting exams for the same purpose. Which of the following statements would **strengthen** the argument given in the above statement?

- (a) A recent study shows no link of past performance with the performance in recruitment exams.
- (b) The graduate/post-graduate exams are considered to be severely deficient in training in job related environment
- (c) Organisations which had undertaken recruitment on the basis of graduate / post-graduate exams report a significant drop in the quality of the recruited employees.
- (d) Such policies would add to unemployment amongst students having below average performance in graduation or post-graduation.
- (e) Such policies could save time, money and resources of the organisation which are wasted in the conduct of recruitment examinations.

50. According to a recent government directive, all bank branches in rural areas should be computerized.

Which of the following statements would **weaken** the government's argument?

- (a) Computerisation of bank branches in urban areas has helped in making their performance more efficient and fast.
- (b) Lack of skilled and qualified manpower has been suitably substituted by computers in banks.
- (c) Non-computerised bank branches in the rural areas have been proved to be as efficient as their computerized counterparts.
- (d) The government has introduced a special test for computer knowledge in all recruitment exams for banks.
- (e) Unemployment in the rural areas could be controlled by training more and more professionals in computers.

QUANTITATIVE APTITUDE

51. A 320 metre long train crosses a pole in 50 seconds. What is the speed of train?
- (a) 4.6 m/sec (b) 7.2 m/sec
- (c) 5.4 m/sec (d) 6.4 m/sec
- (e) Cannot be determined
52. In a school some sweets were to be distributed among 420 children on the occasion of Teacher's day. But 140 children remained absent on that particular day and hence each child got one sweet extra. How many sweets each child would have got originally?
- (a) Cannot be determined
- (b) 2
- (c) 5
- (d) 4
- (e) 1

DIRECTIONS (Qs. 53-58) : In the following questions information about number of candidates interviewed by five commercial firms on different working days has been provided. You are required to read the table carefully and answer the questions given below:

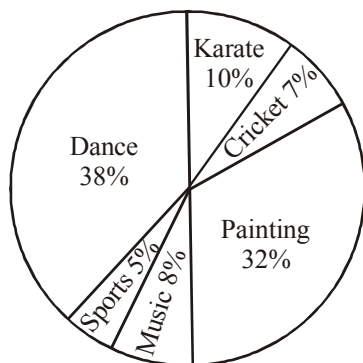
Number of candidates interviewed by five firms on different working days

Working Day	Firms				
	A	B	C	D	E
Monday	17	18	23	25	18
Tuesday	21	19	14	28	25
Wednesday	23	22	23	12	18
Thursday	24	14	12	23	18
Friday	10	10	16	15	22
Saturday	17	26	20	20	24

53. What is the respective ratio between the number of candidates interviewed by firm D on Friday and Saturday together and that of candidates interviewed by firm B on the same days?
- (a) 35 : 38 (b) 39 : 40
- (c) 43 : 44 (d) 45 : 46
- (e) 35 : 36
54. The number of candidates interviewed by firm C on Wednesday is what percent of total number of candidates interviewing by all the firms on the same day?
- (a) 24 (b) 23
- (c) 38 (d) 29
- (e) None of these
55. In which firm the number of candidates interviewed decreased consistently from Monday to Saturday?
- (a) B (b) None
- (c) D (d) C
- (e) A
56. What is the number of candidates interviewed by all the firms on Monday?
- (a) 101 (b) 102
- (c) 114 (d) 98
- (e) 96
57. By what percent the number of candidates interviewed by firm E on Tuesday increased with respect to that of interviewed on the preceding day?
- (a) 45 (b) 26
- (c) 61 (d) 56
- (e) 39
58. In how many ways the letters of the word VISITING can be rearranged?
- (a) 6720 (b) 5720
- (c) 720 (d) 7620
- (e) None of these

DIRECTIONS (Qs. 59-64) : In the following pie-chart percent of students enrolled in different cultural activities of a school has been shown. You are required to study the pie-chart carefully and answer the questions given below:

Number of students = 1800



59. What is the number of students who opted for dancing?
 (a) 648 (b) 684
 (c) 864 (d) 664
 (e) None of these
60. What is the respective ratio between the number of students who opted for painting and that who opted for Karate?
 (a) 3 : 7 (b) 5 : 16
 (c) 16 : 5 (d) 5 : 7
 (e) None of these
61. By what percent is the number of candidates who opted for music more than those who opted for sports?
 (a) 30 (b) 55
 (c) 45 (d) 60
 (e) None of these
62. How many students have opted for cricket and painting together?
 (a) 702 (b) 602
 (c) 660 (d) 645
 (e) None of these
63. By what percent is the number of students who opted for cricket and dancing together more than those who opted for painting and music together?
 (a) 14.5 (b) 12.5
 (c) 16.5 (d) 21.5
 (e) None of these
64. What is the respective ratio between the number of students who opted for dancing and karate to those who opted for painting
 (a) 2 : 3 (b) 1 : 3
 (c) 3 : 1 (d) 3 : 2
 (e) None of these

DIRECTIONS (Qs. 65-69) : What value should come in place of the questions mark (?) in the following questions ?

65. $18.5 \times 21.4 \times ? = 6255.22$
 (a) 15.8 (b) 14.6
 (c) 17.4 (d) 17.2
 (e) 16.4
66. $1.5 \times 78 \div 0.5 = ?$
 (a) 238 (b) 234
 (c) 243 (d) 216
 (e) 261
67. $302.46 + 395.72 - 123.47 = ?$
 (a) 576.77 (b) 547.17
 (c) 547.77 (d) 574.71
 (e) 577.71
68. $\sqrt[3]{4096} \div \sqrt[3]{64} = \sqrt[3]{?}$
 (a) 16 (b) 8
 (c) 64 (d) $\sqrt{4}$
69. ? % of 800 = 293 - 22% of 750
 (a) 14 (b) 18
 (c) 12 (d) 16
 (e) 20

DIRECTIONS (Qs. 70-74) : In the following table, the number of employees working in five companies and the corresponding ratio of male and female employees have been given. You are required to study the table carefully and answer the questions.

Company	Number of Employees
L	400
M	600
N	800
O	1000
P	1200
Company	Male : Female
L	12 : 8
M	15 : 5
N	4 : 1
O	13 : 12
P	7 : 5

70. What is the respective ratio between the number of females in company P and number of females in company L?
 (a) 8 : 25 (b) 25 : 8
 (c) 3 : 16 (d) 16 : 3
 (e) None of these
71. The number of female employees working in company O is what percent of total employees working in that company?
 (a) 24 (b) 12
 (c) 48 (d) 13
 (e) None of these

72. What is the average number of employees in all companies together?
 (a) 800 (b) 775
 (c) 760 (d) 600
 (e) None of these
73. The number of female employees in company M is
 (a) 450 (b) 150
 (c) 250 (d) 350
 (e) None of these
74. The total number of male employees working in companies N and P together is
 (a) 1240 (b) 1360
 (c) 1340 (d) 1260
 (e) None of these

DIRECTIONS (Qs. 75-79) : What approximate value should come in the following questions at the questions places.

(You are not required to calculate the exact value).

75. $(13.001)^3 = ?$
 (a) 1900 (b) 2200
 (c) 2000 (d) 1800
 (e) 2100
76. $55.003 \times 54.998 + 5.001 = ?$
 (a) 3500 (b) 3630
 (c) 2540 (d) 3030
 (e) 2750
77. $50.001\% \text{ of } 99.99 \div 49.999 = ?$
 (a) 1 (b) 0.1
 (c) 0.01 (d) 0.02
 (e) None of these
78. $999.0001 + 899.999 - 349.88 = ?$
 (a) 1549 (b) 1560
 (c) 1449 (d) 1460
 (e) None of these
79. $(2.0001)^3 \times (1.999)^{-2} \div (3.999)^{-4} = ?$
 (a) 32 (b) 16
 (c) 64 (d) 256
 (e) 512
80. What is the average number (in thousand) of units manufactured by all the companies together?
 (a) 41 (b) 40
 (c) 43 (d) 44
 (e) 46
81. What is the respective ratio between the number of units sold by company S and that sold by company Q?
 (a) 7 : 6 (b) 1 : 2
 (c) 1 : 3 (d) 3 : 1
 (e) None of these
82. Which company sold highest percentage of units as compared to manufactured by it?
 (a) Q (b) R
 (c) P (d) T
 (e) S
83. What is the average number of units (in thousand) sold by all the companies together?
 (a) 25.7 (b) 30
 (c) 27.7 (d) 28.8
 (e) None of these
84. What is the respective ratio between the units manufactured by company P and company S?
 (a) 7 : 8 (b) 8 : 7
 (c) 3 : 5 (d) 5 : 3
 (e) None of these
85. From a well-shuffled pack of 52 playing cards, one card is drawn at random. What is the probability that the card drawn will be a black king?
 (a) $\frac{1}{26}$ (b) $\frac{7}{13}$
 (c) $\frac{3}{13}$ (d) $\frac{9}{13}$
 (e) $\frac{1}{13}$
86. A horse is tethered to a peg with a 14 metre long rope at the corner of a 40 metre long and 24 metre wide rectangular grass-field. What area of the field will the horse graze?
 (a) 154 m^2 (b) 308 m^2
 (c) 240 m^2 (d) 480 m^2
 (e) None of these

DIRECTIONS (Qs. 80-84) : In the following table the number of units manufactured and sold by five companies- P, Q, R, S and T has been given. Study the given data carefully and answer the questions.

Company	Number of units manufactured (in thousand)	Number of units sold (in thousand)
P	35	20
Q	45	30
R	35	25
S	40	35
T	50	40

87. Farah was married 8 years ago. Today her age is $1\frac{2}{7}$ times to that at the time of marriage. At present her daughter's age is $\frac{1}{6}$ th of her age. What was her daughter's age 3 years ago?
 (a) 6 years (b) 7 years
 (c) 3 years (d) Cannot be determined
 (e) None of these
88. Manish brought 25 kg of rice at Rs. 32 per kg and 15 kg of rice at Rs. 36 per kg. what profit did he get when he mixed the two varieties together and sold it at Rs. 40.20 per kg?
 (a) 25% (b) 40%
 (c) 30% (d) 20%
 (e) None of these

DIRECTIONS (Qs. 89-93) : In each of the following questions two equations are given. Solve these equations and give answer:

- (a) if $x \geq y$, i.e., x is greater than or equal to y .
 (b) if $x > y$, i.e., x is greater than y .
 (c) if $x \leq y$, i.e., x is less than or equal to y .
 (d) if $x < y$, i.e., x is less than y .
 (e) $x = y$ or no relation can be established between x and y
89. I. $x^2 + 5x + 6 = 0$
 II. $y^2 + 7y + 12 = 0$
90. I. $x^2 + 20 = 9x$
 II. $y^2 + 42 = 13y$
91. I. $2x + 3y = 14$
 II. $4x + 2y = 16$
92. I. $x = \sqrt{625}$
 II. $x = \sqrt{676}$
93. I. $x^2 + 4x + 4 = 0$
 II. $y^2 - 8y + 16 = 0$

DIRECTIONS (Qs. 94-98) : What will come at the place of question mark (?) in the following number series?

94. 3 1731 ? 3243 3459 3523
 (a) 2371 (b) 2731
 (c) 3731 (d) 3127
 (e) None of these
95. 10 18 34 ? 130 258
 (a) 32 (b) 60
 (c) 66 (d) 68
 (e) None of these
96. 4 10 33 136 ? 4116
 (a) 822 (b) 534
 (c) 685 (d) 745
 (e) 548
97. 4000 800 ? 80 40 8
 (a) 140 (b) 100
 (c) 400 (d) 160
 (e) 200
98. 3 4 16 75 364 ?
 (a) 783 (b) 828
 (c) 1293 (d) 1945
 (e) None of these
99. The area of circle is seven times the numerical value of its circumference. What is the circumference of the circle?
 (a) 616 units (b) 132 units
 (c) 88 units (d) Cannot be determined
 (e) None of these
100. The compound interest earned on a sum is 3 years at 15% per annum compounded annually is ₹ 6500.52. What is the sum?
 (a) ₹ 12480 (b) ₹ 10500
 (c) ₹ 14800 (d) ₹ 13620
 (e) None of these

ENGLISH LANGUAGE

DIRECTIONS (Qs. 101-110) : Each question below has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank that best fits the meaning of the sentence as a whole.

101. A plethora of cultural talent _____ the spectators busy at a talent hunt programme where students from various colleges get together to _____ their mettle in various contests.
 (a) tried, show (b) kept, prove
 (c) caught, puzzle (d) held, learn
 (e) helped, mention
102. The _____ of Chinese plastic thread should be banned as it _____ thousands of birds every year during the kite flying season.
 (a) sale, cripples (b) sell, kills
 (c) sale, disturbs (d) sell, disables
 (e) sale, saves
103. Harish _____ with me some basic techniques that one can _____ at home without even owning a drumset.
 (a) made, shred (b) imparted, try
 (c) learned, balance (d) fits, rehearses
 (e) shared, practise
104. In the present case, the facts clearly _____ that the required reasonable degree of care and caution was not _____ by hospital in the treatment of the patient.
 (a) reflect, compressed
 (b) fix, advancement
 (c) show, proceeded
 (d) observe, considered
 (e) indicate, taken
105. Students from the Middle East and the African countries have _____ been _____ contributors to the pool of foreign students in the university.
 (a) traditionally, major
 (b) conservatively, crucial
 (c) suprisingly, most
 (d) intuitively, salient
 (e) annually, lucid
106. The minister _____ about various _____ being provided by officials for the pilgrims including direction wise colour coded passenger enclosures.
 (a) ceased, functions
 (b) enquired, facilities
 (c) relied, opportunities
 (d) shy, evidence
 (e) asked, deity

107. It is _____ to drive the evening and night when the _____ of accidents looms large due to non-functional streetlights.
 (a) juvenile, planning
 (b) easy, risk
 (c) instinctive, fame
 (d) difficult, threat
 (e) natural, feature
108. An overcast sky made Sunday less than _____ for city residents, who going by weather experts have more in _____.
 (a) difficult, fate (b) perfect, store
 (c) holiday, sky (d) dream, sharing
 (e) steady, fame
109. Many teachers _____ the lack of professional freedom as the _____ for leaving the job.
 (a) cited, reason
 (b) explained, force
 (c) claimed, understanding
 (d) argued, culprit
 (e) believe, ground
110. Skeptics would not _____ that the earth actually moves, let alone that it _____ around the sun.
 (a) permit, orbits
 (b) accept, revolves
 (c) experiment, circles
 (d) assume, went
 (e) challenge, spins

DIRECTIONS (Qs. 111-125) : Read each sentence to find out whether there is any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is "No Error" the answer is (e). (Ignore errors of punctuation if any.)

111. The couple's work in (a) / up-grading rural technicians (b) / has set a benchmarking (c) / for future generations. (d) / No Error (e).
112. It has taking almost (a) / a year for India (b) / to let its pessimism (c) / translate into fewer jobs. (d) / No Error (e).
113. The city needs an airport (a) / that can efficiently manage (b) / a constantly flow of (c) / passengers and flights. (d) / No Error (e).
114. This group of (a) / rural achievers is very (b) / different than the (c) / ones in the past. (d) / No Error (e).
115. The government has announced (a) / plans to creating (b) / one million new (c) / training places. (d) / No Error (e).
116. The argument assumes that (a) / early detection of the disease (b) / will lead to an immediate drop in (c) / the mortality rating from this disease. (d) / No Error (e).
117. The two most important numbers (a) / which the mandarins of an (b) / economy have to watch (c) / are inflation and unemployment. (d) / No Error. (e).
118. Witnessed the young soldier's ability (a) / to repeatedly hit bull's eye at (b) / arms training, instructors pushed him (c) / to participate in the Army marksmanship competition. (d) / No Error (e).

119. It is all well known that (a) / women are generally in favour of (b) / light topics like jokes and expressions (c) / that causing laughter all around. (d) / No Error (e).
120. The evening breeze (a) / won't carrying the poetry (b) / of peace beyond (c) / the school building (d). No Error (e).
121. We are bring in the idea that (a) / European rehabilitation focussed (b) / on a multi-disciplinary approach (c) / towards chronic pain. (d) / No Error (e).
122. If parents are able to (a) / get their children into schools (b) / that are far away, the (c) / next challenge is transportation. (d) / No Error (e).
123. The perception of others (a) / particularly family members (b) / changed when he (c) / qualified on a government job. (d) / No Error (e).
124. Every house should (a) / have the device as it (b) / protects people from a (c) / common household disaster. (d). No Error (e).
125. Automated baggage handling systems are (a) / ensuring that on the time passengers (b) / are out of the plane their (c) / baggage is already waiting for them. (d) / No Error (e)

DIRECTIONS (Qs. 126-140) : Read the following passage carefully and answer the questions given below it.

Certain words have been printed in bold to help you locate them while answering some of the questions.

Indeed the western recession is really the beginning of good news for India ! But to understand that we will have to move away for a while from the topic of western recession to the Japanese recession! For years the Japanese style of management has been admired. However, over the last decade or so. one **key** question has sprung up 'if Japanese management style is as wonderful as described then why has Japan been in a recession for more than a decade?'

The answer to this question is very simple. Culture play a very important part in shaping up economies. What succeeds in one culture falls in another. Japanese are basically no materialistic. And however rich they become unlike others, they cannot just keep throwing and buying endlessly. And once they have everything they need; there is a saturation point. It was only when companies like Toyota realized that they cannot keep selling cars endlessly to their home market that they went really **aggressive** in the western markets - and the rest is history. Japanese companies grew bigger by **catering** to the world markets when their home markets shrunk.

And the markets have to shrink finally after attaining a level of affluence! And that's great for the world because earth needs sustainable development. It does not need monstrous consumers who keep consuming at the cost of the environment and the earth. There should be limits to growth so that consumers are not converted into material dustbins for the profit of a handful of corporations.

Owing to the materialistic culture elsewhere, it was possible to keep selling newer products to the consumers despite having existing ones which served equally well. They were lured through advertising and marketing techniques of ‘dustbinisation’ of the customer; and then finally, once they became ready customers, they were given loans and credits to help them buy more and more. When all the creditworthy people were given loans to a logical limit, they ceased to be a part of the market. Even this would have been understandable. If it could work as an eye opener. Instead of taking the ‘Right Step’ as Toyota did, they preferred to take a ‘shortcut’. Now banks went to the non creditworthy people and gave them loans. The people expectedly defaulted and the entire system collapsed.

Now like Toyota western companies will learn to find new markets. They will now lean towards India because of its common man! The billion plus population in the next 25 years will become, a **consuming** middle-class. Finally, the world’s attention will shift to the developing world. Finally, there will be a real **surge** in income of these people and in the next fifty odd years, one can really hope to see an equal world in terms of material plenty, with poverty being almost nonexistent! And this will happen not by selling more cars to Americans and Europeans. It will happen by creating markets in India. China, Latin America and Africa, by giving their people purchasing power and by making products for them.

The recession has made us realize that it is not because of worse management techniques, but because of limits to growth. And they will realize that it is great for planet earth. After all, how many cars and houses must the rich own before calling it enough? It’s time for them to look at others as well. Many years back, to increase his own profits. Henry Ford had started paying his workers more, so that they could buy his cars. In similar fashion, now the developed world will pay the developing world will pay the developing world people so that they can buy their cars and washing machines.

The recession will kick-start the process of making the entire world more **prosperous**, and lay the foundation of limits to growth in the west and the foundation of real globalization in the world – of the globalization of prosperity. And one of its first beneficiaries will be India.

126. What does the author mean by the “Right Step” in the passage?

- (a) Giving loans to creditworthy people only
- (b) Considering market growth along with environment protection.
- (c) Restricting people to buy only such products which are needed by them.
- (d) To start looking at newer avenues and markets.
- (e) None of these

127. Although admired since years, why did the scepticism over the Japanese management style start since the last decade?

- (a) Japanese companies have been moving out of their home markets since the last decade.

- (b) Japanese banks have provided loans indiscriminately to the creditworthy as well as non creditworthy people.
- (c) Because Japanese markets have been going through a period of continuous recession since the last decade.
- (d) The unlimited growth of the Japanese makes has come at the cost of the western market.
- (e) None of these

128. Why does the author foresee the markets being created in the developing countries instead of America and Europe?

- (a) All developing countries have materialistic culture.
- (b) Developed countries are willing to make an effort to achieve globalization.
- (c) American and European markets have had a large number of credit defaulters.
- (d) Recession has not hit the markets of developing countries yet.
- (e) None of these

129. According to the author, what is the main cause of Japanese recession?

- (a) Only a handful of corporations earned profits and not the people in general.
- (b) Non creditworthy people defaulted which led to a collapse of the entire system.
- (c) Consumers were sold newer products which were similar in quality to the existing ones.
- (d) Japanese do not purchase endlessly and thus when products had been sold to every customer, the markets slowed down.
- (e) None of these

130. How does the author foresee the future globalization as an analogy to Henry Ford’s example?

- (A) Car companies would start selling cars in developing countries as well.
- (B) By paying the developing world the developed world would increase its own profit, in turn bringing affluence to developing world as well.
- (C) To earn profit, the companies in developing countries would move to foreign land.
- (a) Only A
- (b) Only B
- (c) Only C
- (d) Only A and C
- (e) None of these

131. According to the passage, which of the following was **NOT** an effect of providing loans and credits to the customers?

- (A) The non creditworthy people defaulted.
- (B) People bought new products which were not needed.
- (C) Poverty became non existent.
- (a) Only A
- (b) Only B
- (c) Only A and B
- (d) Only B and C
- (e) Only C

132. Why is recession the beginning of good news for India in the author's view?
- (A) India can provide an attractive market to the western companies.
 (B) India has remained largely unaffected by recession owing to its huge population.
 (C) Indians keep purchasing products despite owning equally good products.
 (a) Only C (b) Only B
 (c) Only A (d) Only B and C
 (e) None of these
133. What does the author mean by 'Dustbinisation' of the customer?
- (a) Convincing the customer to buy products he does not need.
 (b) Denying the non creditworthy people of any loans.
 (c) Denying more loans to people who have already taken loans to a logical limit.
 (d) Moving from old customers at the home market to foreign markets.
 (e) None of these
134. Why according to the author is the current recession great for 'Planet Earth'?
- (A) It will make people non-materialistic like the Japanese.
 (B) The unlimited market growth which caused hazards to the environment would be checked to a certain extent.
 (C) Banks will now provide loans only to the creditworthy people.
 (D) Developing countries will also be benefited by shifted markets.
 (a) Only A (b) Only B and D
 (c) Only A and B (d) Only B
 (e) None of these

DIRECTIONS (Qs. 135-137) : Choose the word which is most similar in meaning to the word printed in bold as used in the passage.

135. CATERING

- (a) Considering (b) Lending
 (c) Supplying (d) Working
 (e) Indulging

136. KEY

- (a) Foundation (b) Solution
 (c) Requisite (d) Difficult
 (e) Important

137. AGGRESSIVE

- (a) Violent (b) Determined
 (c) Demanding (d) Offensive
 (e) Brutish

DIRECTIONS (Qs. 138-140) : Choose the word/phrase which is most opposite in meaning to the word printed in bold as used in the passage.

138. PROSPEROUS

- (a) Distressed (b) Helpless
 (c) Worse (d) Worthless
 (e) Underprivileged

139. CONSUMING

- (a) Destroying (b) Exhausting
 (c) Greedy (d) Curtailing
 (e) Spending

140. SURGE

- (a) Decrease (b) Deteriorating
 (c) Weakening (d) Atrophy
 (e) Crumble

DIRECTIONS (Qs. 141-150) : In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which best fits the blank appropriately. Find out the appropriate word in each case.

Twenty years **(141)** now, nearly 60% of the world's population will live in urban areas. The impact of urbanization might not all be positive on India as urban expansion is happening at a much **(142)** rate than infrastructure expansion.

Sustainability issues need to be **(143)** so that economic development is not at the **(144)** of public health. Some urban services that ought to be in **(145)** in a city like water, electricity, transport etc. need special consideration.

TERI has put together a detailed report that **(146)** sustainability in the provision of basic urban services in Indian cities.

(147) public transport is a major reason for the proliferation of private vehicles on the road. Respiratory illness in children living in urban areas is on the **(148)** with more cases of Asthma being **(149)** because of pollution. The future of cities of Indian dreams depends on **(150)** we can build better cities today.

141. (a) till (b) since
 (c) from (d) after
 (e) on
142. (a) faster (b) slower
 (c) changed (d) speed
 (e) quick
143. (a) speculated (b) believed
 (c) imagined (d) considered
 (e) understand
144. (a) payment (b) rate
 (c) costs (d) charge
 (e) expense
145. (a) abundance (b) large
 (c) functional (d) vicinity
 (e) location
146. (a) bring (b) emphasizes
 (c) speculates (d) postulates
 (e) requests
147. (a) Good (b) Competent
 (c) Absence (d) Inadequate
 (e) Sufficient
148. (a) multiplication (b) expansion
 (c) rise (d) inflation
 (e) grow

149. (a) produced (b) develop
(c) composed (d) resulted
(e) reported
150. (a) if (b) whether
(c) unless (d) provided
(e) weather

PROFESSIONAL KNOWLEDGE (I.T.)

151. In Oracle, who owns the data dictionary?
(a) Oracle (b) SYS
(c) The DBA (d) SYSTEM
(e) None of these
152. The reason the data outputs of most ROM ICs are tri-state outputs is to:
(a) allow for three separate data input lines.
(b) allow the bidirectional flow of data between the bus lines and the ROM registers.
(c) permit the connection of many ROM chips to a common data bus.
(d) isolate the registers from the data bus during read operations.
(e) None of these
153. To drop a column that is used as a foreign key, first:
(a) drop the primary key
(b) drop the table
(c) drop the foreign key constraint
(d) all of these
(e) none of these
154. In the straight CGI approach to database connectivity on the internet:
(a) the external program is located between the client and the web server
(b) the external program is located between the database server and the database
(c) the external program is located between the web server and the database server
(d) there is no external program
(e) None of these
155. What is the name of the protocol used to eliminate loops?
(a) Switching (b) ISL
(c) Frame tagging (d) Spanning Tree Protocol
(e) Scanning
156. The effect of the ROLLBACK command in a transaction is the following:
(a) Undo all changes to the database resulting from the execution of the transaction
(b) Undo the effects of the last UPDATE command
(c) Restore the content of the database to its state at the end of the previous day
(d) Make sure that all changes to the database are in effect
(e) None of these
157. In Oracle, what is the default number of transactions that MAXTRANS is set to if not specified?
(a) 512 (b) 10
(c) 40 (d) 1
(e) 255
158. To which pin on the RAM chip does the address decoder connect in order to signal which memory chip is being accessed?
(a) The address input (b) The output enable
(c) The chip enable (d) The data input
(e) The data output
159. Which of the following switching methods provides the greatest frame throughput?
(a) Store-and-forward switching
(b) Frame-tag switching
(c) Cut-through switching
(d) ISL switching
(e) Store-and-backward switching
160. Which kind of lock includes a keypad that can be used to control access into areas?
(a) Cipher (b) Warded
(c) Device (d) Tumbler
(e) Typelock
161. A gateway is:
(a) a device that enables users to send information simultaneously over a network without slowing down transmission
(b) an electronic device that connects several computing devices to a network
(c) a point in one network that is an entrance point to another network
(d) a device that links two or more segments of a network and helps direct traffic
(e) None of these
162. Which of the following is considered a vulnerability of SNMP?
(a) Clear text community strings
(b) Its use of TCP
(c) The fact that it is on by default in Windows 2000 server
(d) The fact that it is on by default in Windows XP Professional
(e) None of these
163. Network routing information distributed among routers is stored in which of the following?
(a) Flash memory (b) Route table
(c) Metric table (d) NVRAM
(e) Router memory
164. If the destination did not receive a segment, how will the TCP host know to resend the information?
(a) The ACK received will not include the segment number that was not received.
(b) The ACK received will include the segment number that was not received.
(c) The sending host will send a PACK to verify segment receipt
(d) The destination host will send a YACK message back to the sending host
(e) None of these

165. What are the effects of mixing RAM modules with different speed ratings?
- The system runs at the speed of the slowest RAM stick.
 - The system runs normally.
 - The system runs at the speed of the memory bus.
 - The system may not run, or it crashes periodically.
 - None of these
166. What kind of scheme is the HTTP protocol?
- get/put
 - store/forward
 - queuing
 - search/return
 - request/response
167. What type of error does a memory parity error create?
- A fatal exception error
 - An NMI error
 - A corrupt Windows operating system file
 - A GPF error
 - A GPA error
168. Which is **not** a part of the Oracle database block?
- Header
 - Row directory
 - Data
 - Freelists
 - None of these
169. Which of the following cannot be used as the scope when using a JavaBean with JSP?
- Page
 - Request
 - Session
 - Application
 - Response
170. Which of the following is used for integrity?
- DES
 - Diffie-Hellman
 - SED
 - AES
 - MD5
171. What is ISL used for?
- To allow an Ethernet interface to understand frame tags
 - To make two Ethernet interfaces appear as one
 - To connect an Ethernet switch with a high-speed core switch such as ATM
 - To allow simultaneous routing and switching
 - None of these
172. Which of the following describes programs that can run independently, travel from system to system, and disrupt computer communications?
- Trojans
 - Viruses
 - Idlers
 - Droppers
 - Worms
173. You need to configure a switch from a remote subnet. Which of the following must be configured on the switch?
- Console port
 - IP
 - Hostname
 - SNMP
 - Default gateway
174. In Oracle, which is more appropriate to store a small list of values in a single column in each row in your address table?
- ORACARRAY
 - Nested table
 - Index organized table
 - Index
 - VARRAY
175. While searching a website, you have been unable to find information that was on the site several months ago. What might you do to attempt to locate that information?
- Visit Google's cached page to view the older copy.
 - Forget about it, as there is no way to find this information.
 - Visit a partner site of the organization to see if it is there.
 - Use the wayback machine.
 - None of these
176. Which layers of the OSI, model are included in the lower layers?
- Application, Session, Presentation
 - Physical, Transport, Data Link, Network
 - Data link, Physical, Network
 - Session, Data Link, Physical
 - None of these
177. From smallest to largest, rank the following logical pieces of the database: data block, tablespace, extent, segment.
- tablespace, segment, extent, data block
 - data block, segment, extent, tablespace
 - segment, extent data block, tablespace
 - data block, extent, segment, tablespace
 - None of these
178. Where are cookies stored?
- On the server
 - In web. xml
 - On the client
 - In HTML
 - None of these
179. How is power supplied to a low-power USB device?
- Through a power cable
 - From an external power supply
 - Directly from the computer's power supply
 - Through the USB cable
 - None of these
180. When you are selecting a mouse for a particular computer system, what is the most important consideration?
- The type of drivers that come with the mouse
 - The length of the mouse cord
 - The type of connector the mouse is equipped with
 - The number of buttons the mouse has
 - None of these
181. Programs that automatically submit your search request to several search engines simultaneously are called:
- Metasearch engines
 - Webcrawlers
 - Spiders
 - Hits
 - None of these

- 182.** You are planning on using a single network that supports 208 users. Which IP address class would you choose to be the most efficient?
- (a) Class A (b) Class B
(c) Class C (d) Class D
(e) Class E
- 183.** Which of the following options is **not** a JSP implicit object?
- (a) Out (b) In
(c) Response (d) Page
(e) None of these
- 184.** In Oracle, which statement is true about segments?
- (a) Each table has its own segment
(b) A segment is created every time an extent is created, extended, or altered
(c) An index segment is created every time a table is created
(d) A segment is deleted whenever a table is truncated
(e) None of these
- 185.** All of the following are basic principles of networks, **except**:
- (a) each computer must have a network card
(b) there must be communications media connecting the network hardware devices
(c) there must be at least one connecting device
(d) each computer must have software that supports the movement of information
(e) None of these
- 186.** Which of the following could be a legitimate Media Access Control address?
- (a) 192.168.254.3 (b) 3FA2.4756.F9A3
(c) A5514 (d) C1.3A.77.5B
(e) None of these
- 187.** The term, "hypertext," means:
- (a) Non-sequential writing
(b) Hypermedia
(c) Blinking text
(d) Text with heavy formatting
(e) None of these
- 188.** You receive an e-mail message that informs you that a terrible virus has been unleashed on the internet and that you should warn all the people in your Address Book. Which of the following have you most likely encountered?
- (a) A virus hoax (b) A filter
(c) Spam (d) A virus
(e) A worm
- 189.** If 20 people need to communicate using symmetric-key cryptographysymmetric keys are needed.
- (a) 190 (b) 200
(c) 20 (d) 19
(e) 210
- 190.** What should you do as soon as you have successfully created the database and the data dictionary?
- (a) Open the database for users to start adding data
(b) Start adding a bunch of tablespaces to allow users to use
(c) Leave it running for a few days to make sure that nothing bad is going to happen
(d) Shut it down and take a cold backup
(e) None of these
- 191.** Which of the following is the default mask of a class A IP address?
- (a) 255.0.0.255 (b) 255.255.0.0
(c) 255.0.0.0 (d) 255.255.255.0
(e) None of these
- 192.** What is Internet 2?
- (a) A new type of cabling system for Wide Area Networks
(b) A second local area network that can connect with another online LAN to share access
(c) A new standard for Internet browsers
(d) An association to develop advanced Internet technology
(e) None of these
- 193.** Which one of the following objects is passed to a JavaBean when one of its properties is set via a JSP action?
- (a) ServletRequest
(b) HttpServletRequest
(c) ServletResponse
(d) HttpServeletResponse
(e) None of these
- 194.** If you want to locate the hardware address of a local device, which protocol would you use?
- (a) ARP (b) RARP
(c) ICMP (d) PING
(e) PONG
- 195.** In Oracle, which tablespace is the minimum required when creating a new database?
- (a) Undo tablespace (b) Temporary tablespace
(c) System tablespace (d) Users tablespace
(e) None of these

196. Database redesign is **not** terribly difficult if the:
- (a) database is structured
 - (b) database is well-designed
 - (c) database has no data
 - (d) database is relatively small
 - (e) database is relatively large
197. Which of the following are normally used to initialize a computer system's hardware?
- (a) Bootstrap memory
 - (b) Volatile memory
 - (c) External mass memory
 - (d) Static memory
 - (e) Random access memory
198. Which of the following statements is **not true** about two-tier-client-server database architecture?
- (a) SQL statements are processed on the server
 - (b) SQL statements may be processed on some of the clients
 - (c) Business logic is mostly processed on clients
 - (d) Business logic may be processed on the server
 - (e) None of these
199. The process by which the structure of the database is modified to eliminate hidden dependencies and repeating groups is:
- (a) enforcing data integrity
 - (b) enforcing referential integrity
 - (c) indexing
 - (d) normalization
 - (e) none of these
200. Which of the following function is **not** performed by TCP?
- (a) Flow control
 - (b) Sequencing
 - (c) Error checking
 - (d) Subnetting
 - (e) None of these

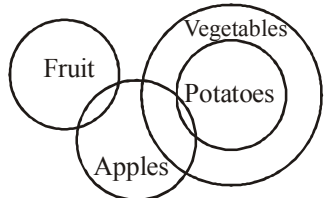
HINTS & SOLUTIONS

-

\therefore Only conclusion II follows

-
- A Venn diagram illustrating the relationship between different food categories. It consists of two large, non-overlapping circles. The left circle is labeled 'Fruit' and contains a smaller circle labeled 'Apples'. The right circle is labeled 'Vegetables' and contains a smaller circle labeled 'Potatoes'.

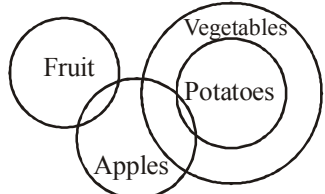
or



\therefore Neither conclusion I nor conclusion II follows.

-
- A Venn diagram illustrating the relationship between different food categories. It consists of two large, non-overlapping circles. The left circle is labeled 'Fruit' and contains a smaller circle labeled 'Apples'. The right circle is labeled 'Vegetables' and contains a smaller circle labeled 'Potatoes'.

or



\therefore Both conclusion I and conclusion II follows.

-

\therefore Only conclusion II follows.

-
- A Venn diagram illustrating the relationship between different categories of crops. It consists of four circles. On the left, there are three concentric circles: the outermost is labeled 'Crops', the middle one is labeled 'Pulses', and the innermost is labeled 'Beans'. To the right of these concentric circles is a single, separate circle labeled 'Seed'.

\therefore Only conclusion I follows.

- The Conclusion - the work of the road is going on - is true.

8. (a) Obviously option (a) can be inferred from the given information.

(9-11): $\begin{matrix} \square & \square \\ \square & \square \end{matrix} > S > \begin{matrix} \square & \square \\ \square & \square \end{matrix}$
 $\begin{matrix} \square & \square \\ \square & \square \end{matrix} > S > T > R$

Either P or Q is of 158 cm.

- $$P > Q > S > T > R \text{ or } Q > P > S > T > R$$

- 13.** (d) Obviously option (d) is correct.

26. (e) $E < F \leq G = H > S$

Conclusion II : $F < H$: True

27. (a) $P < Q < W = L$

Conclusion II: $Q < L$: True

Input : 23 you 13 wake 81 me 43 before 72 go 34 up

Step I : 23 you 13 wake 81 me 43 72 go 34 up before

Step II : 23 you 13 wake 81 me 43 72 go 34 up 13 before

Step III : 23 you wake 81 me 43 72 34 up go 13 before

Step IV : you wake 81 me 43 72 34 up 23 go 13 before

Step V : you wake 81 43 72 34 up me 23 go 13 before

Step VI : you wake 81 43 72 up 34 me 23 go 13 before

Step VII : you wake 81 72 48 up 34 me 23 go 13 before

Step VIII : you 81 72 wake 43 up 34 me 23go 13 before

Step IX : 81 you 72 wake 43 up 34 me 23 go 13 before

28. (a) me

29. (d) It is step V.

30. (d) Option (d) is step II.

31. (e) It is mentioned in the passage that 50 - 80 per cent of all people who suffer a heart attack are able to return to work. Therefore, the inference is definitely false.

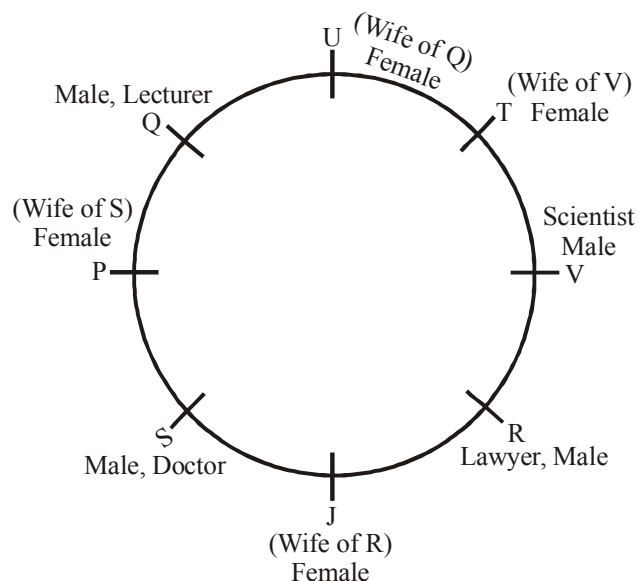
32. (b) It is mentioned in the passage that the persons who have suffered a heart attack should avoid high pressure, stressful work. Therefore, it may be concluded that the inference is probably true.

33. (c) There is no information about this inference.

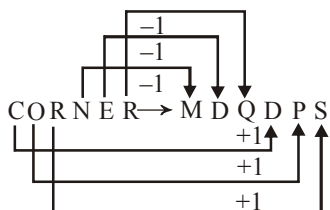
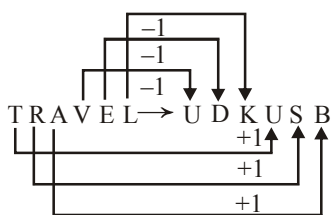
34. (d) The use of term 'definitely' in the inference makes it doubtful. Therefore, the inference is probable false.

35 (a) Consider the very first line of the passage. It is clear from the first line of the passage that the inference is definitely true.

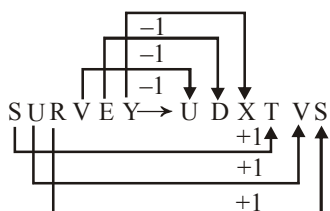
(36 - 40): Sitting arrangement



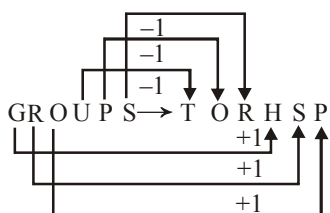
14. (d)



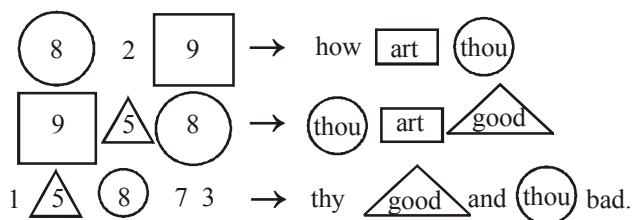
Similarly



15. (a)



(16-20) :



16. (e) The code for 'thy' may be '1' or '7' or '3'

17. (b) The code for 'thou' is '8'

18. (c) The code for 'how' is '2'

19. (a) $\text{thou} \Rightarrow 8$; $\text{good} \Rightarrow 5$;
The code for 'no' may be '0'

20. (b) How $\Rightarrow 2$; good $\Rightarrow 5$;
thou $\Rightarrow 8$; art $\Rightarrow 9$.

21. (a) Clearly option (a) is the cause.

22. (d) Clearly option (d) is the effect.

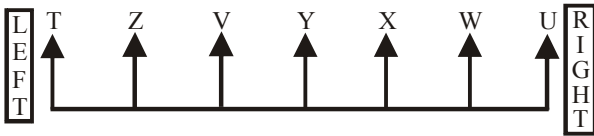
23. (c) Clearly option (c) is the cause.

24. (e) Obviously option (e) is an assumption.

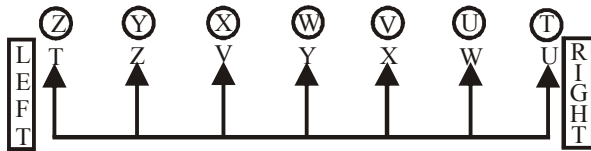
25. (e) Obviously option (e) is the effect.

36. (d) P is to the immediate left of S.
 37. (a) J is third to the left of T.
 38. (b) T is, the wife of V
 39. (c) Wives of Q and V are immediate neighbours.
 40. (c) Except in UTV, in all others the third person is sitting between the first and the second persons. In UTV, the second person is sitting between the first and the third persons.

(41 - 44) :



41. (c) Z is fourth to the left of W.
 42. (d) V is second to the right of T.
 43. (b) Except in XV, in all others first person is to the immediate right of the second person.



44. (a)
 45. (a) Obviously option (a) is the cause.
 46. (c) Obviously option (c) is the cause.
 47. (d) Option (d) may be and effect.
 48. (a) Option (a) would weaken the argument put forward by the committee to the sports ministry.
 49. (e) Option (e) would strengthen the argument.
 50. (c) Option (c) would strengthen the argument of government.
 51. (d) Speed of train

$$= \frac{320}{50} = 6.4 \text{ m/sec.}$$

52. (b) Let the number of all sweets be x , then

$$\frac{x}{280} - \frac{x}{420} = 1$$

$$\Rightarrow \frac{3x - 2x}{840} = 1$$

$$\Rightarrow x = 840$$

$$\therefore \text{Required answer} = \frac{840}{420} = 2$$

53. (e) Required ratio
 $= (15 + 20) : (10 + 26) = 35 : 36$

54. (b) Required percentage

$$= \frac{23}{98} \times 100 = 23$$

55. (b) It is obvious from the table.

56. (a) Required number of persons interviewed = 101

57. (e) Percentage increase

$$= \frac{25 - 18}{18} \times 100 = \frac{7}{18} \times 100 = 38.88 \approx 39\%$$

58. (a) The word VISITING has 8 letters in which I comes thrice.

\therefore Number of arrangements

$$= \frac{8!}{3!} \\ = 8 \times 7 \times 6 \times 5 \times 4 = 6720$$

59. (b) Number of students who opted for dancing

$$= \frac{1800 \times 38}{100} = 684$$

60. (c) Required ratio = 32 : 10
 $= 16 : 5$

61. (d) Required percentage

$$= \frac{8 - 5}{5} \times 100 = 60\%$$

62. (a) Number of students who opted for cricket and painting

$$= \frac{1800 \times (32 + 7)}{100} \\ = 702$$

63. (b) Required percentage

$$= \frac{45 - 40}{40} \times 100 \\ = \frac{5}{40} \times 100 = 12.5$$

64. (d) Required ratio = 48 : 32
 $= 3 : 2$

65. (a) $? = \frac{6255.22}{18.5 \times 21.4} = 15.8$

66. (b) $? = \frac{1.5 \times 78}{0.5} = 234$

67. (d) $? = 302.46 + 395.72 - 123.47$
 $= 698.18 - 123.47 = 574.71$

68. (c) $\sqrt[3]{?} = \sqrt[3]{4096} + \sqrt[3]{64}$
 $= \sqrt[3]{16 \times 16 \times 16} + \sqrt[3]{4 \times 4 \times 4}$
 $= 16 \div 4 = 4$

$$\therefore ? = 4 \times 4 \times 4 = 64$$

69. (d) $\frac{800 \times ?}{100} = 293 - \frac{750 \times 22}{100}$

$$\Rightarrow 8 \times ? = 293 - 165 = 128$$

$$\Rightarrow ? = \frac{128}{8} = 16$$

70. (b) Females in company P

$$= \frac{5}{12} \times 1200 = 500$$

Females in company L

$$= 400 \times \frac{8}{20}$$

$$= 160$$

\therefore Required percentage

$$= 500 : 160$$

$$= 25 : 8$$

71. (c) Required percentage

$$= \frac{12}{25} \times 100 = 48$$

72. (a) Required average

$$= \frac{4000}{5} = 800$$

73. (b) Females in company M

$$= \frac{5}{20} \times 600$$

$$= 150$$

74. (c) Males in company N and company P

$$= \frac{4}{5} \times 800 + 1200 \times \frac{7}{12}$$

$$= 640 + 700 = 1340$$

75. (b) $? = (13.001)^3 = (13)^3$

$$= 2197 = 2200$$

76. (d) $? = 55 \times 55 + 5$

$$= 3025 + 5 = 3030$$

77. (a) $? = \frac{100 \times 50}{100} \div 50 = 1$

78. (a) $? = 999 + 900 - 350$

$$= 1549$$

79. (e) $? = 2^3 \times (2)^{-2} \div (4)^{-4}$

$$= \frac{2}{(4)^{-4}} = 2 \times 2^8 = 2^9 = 512$$

80. (a) Required average

$$= \frac{35 + 45 + 35 + 40 + 50}{5}$$

$$= \frac{205}{5} = 41 \text{ thousand}$$

81. (a) Required ratio = 35 : 30

$$= 7 : 6$$

82. (e) Percentage sale:

$$\text{Company P} \Rightarrow \frac{20}{35} \times 100 = 57$$

$$\text{Company Q} \Rightarrow \frac{30}{45} \times 100 = 66.7$$

$$\text{Company R} \Rightarrow \frac{25}{35} \times 100 = 71.4$$

$$\text{Company S} \Rightarrow \frac{35}{40} \times 100 = 87.5$$

$$\text{Company T} \Rightarrow \frac{40}{50} \times 100 = 80$$

83. (b) Required average

$$= \frac{150}{5} = 30 \text{ thousand}$$

84. (a) Required ratio = 35 : 40 = 7 : 8

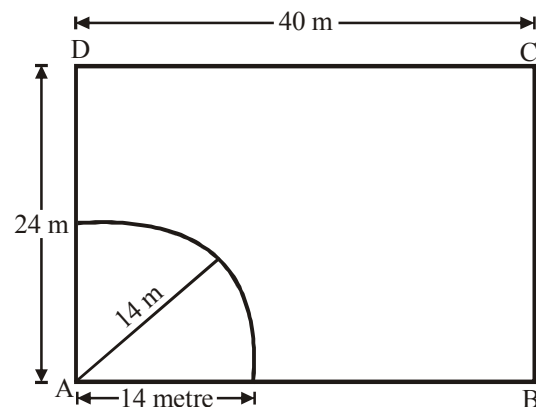
85. (a) Total possible outcomes = ${}^{52}C_1 = 52$

Favourable outcomes = 2

\therefore Required probability

$$= \frac{2}{52} = \frac{1}{26}$$

86. (a)



$$\text{Required area} = \frac{1}{4} \times \pi R^2$$

$$= \frac{1}{4} \times \frac{22}{7} \times 14 \times 14$$

$$= 154 \text{ sq. metre}$$

87. (a) Let Farah's age 8 years ago be x years

Farah's present age = $(x + 8)$ years

$$\therefore x + 8 = \frac{9x}{7} \Rightarrow 7x + 56 = 9x$$

$$\Rightarrow 2x = 56$$

$$\Rightarrow x = 28$$

Farah's present age = $28 + 8 = 36$ years

Her daughter's age 3 years ago

$$= 36 \times \frac{1}{6} = 6 \text{ years}$$

88. (d) C.P. of 40 kg of mixture

$$= ₹[(25 \times 32) + (15 \times 36)]$$

$$= ₹(800 + 540)$$

$$= ₹1340$$

S.P. of 40 kg of mixture

$$= ₹(40 \times 40.2)$$

$$\text{Profit} = ₹(1608 - 1340) = ₹268$$

$$\text{Profit \%} = \frac{268}{1340} \times 100 = 20\%$$

89. (a)

I. $x^2 + 5x + 6 = 0$

$$\Rightarrow x^2 + 2x + 3x + 6 = 0$$

$$\Rightarrow x(x+2) + 3(x+2) = 0$$

$$\Rightarrow (x+3)(x+2) = 0$$

$$\Rightarrow x = -3 \text{ or } -2$$

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

$$\Rightarrow y^2 + 4y + 3y + 12 = 0$$

$$\Rightarrow y(y+4) + 3(y+4) = 0$$

$$\Rightarrow (y+3)(y+4) = 0$$

$$\Rightarrow y = -3 \text{ or } -4$$

On comparing the value of equ.(i) and equ.(ii)

$$x \geq y$$

90. (d)

I. $x^2 - 9x + 20 = 0$

$$\Rightarrow x^2 - 5x - 4x + 20 = 0$$

$$\Rightarrow x(x-5) - 4(x-5) = 0$$

$$= (x-4)(x-5) = 0$$

$$x = 4 \text{ or } 5$$

II. $y^2 - 13y + 42 = 0$

$$\Rightarrow y^2 - 7y - 6y + 42 = 0$$

$$\Rightarrow y(y-7) - 6(y-7) = 0$$

$$\Rightarrow (y-6)(y-7) = 0$$

$$\Rightarrow y = 6 \text{ or } 7$$

Here, $y > x$

91. (d) $2x + 3y = 14 \quad \dots(I)$

$4x + 2y = 16 \quad \dots(II)$

By equation (I) $\times 2$ - equation II.

$$4x + 6y - 4x - 2y = 28 - 16$$

$$\Rightarrow 4y = 12 \Rightarrow y = 3$$

From equation I,

$$2x + 3 \times 3 = 14$$

$$\Rightarrow 2x = 14 - 9 = 5 \Rightarrow x = \frac{5}{2}$$

Here, $y > x$

92. (e) I. $x = \sqrt{625} = \pm 25$

II. $y = \sqrt{676} = \pm 26$

No relation can be established between x and y .

93. (d) I. $x^2 + 4x + 4 = 0$

$$(x+2)^2 = 0 \Rightarrow x = -2$$

II. $y^2 - 8y + 16 = 0$

$$\Rightarrow (y-4)^2 = 0$$

$$\Rightarrow y = 4$$

Here, $y > x$

94. (b) The pattern is :

$$3523 - 3459 = 64 = 4^3$$

$$3459 - 3243 = 216 = 6^3$$

$$\therefore ? = 3243 - 8^3 = 3243 - 512 = 2731$$

$$2731 - 1731 = 1000 = 10^3$$

$$1731 - 3 = 1728 = 12^3$$

95. (c) The pattern is :

$$10 \times 2 - 2 = 20 - 2 = 18$$

$$18 \times 2 - 2 = 36 - 2 = 34$$

$$34 \times 2 - 2 = 68 - 2 = \boxed{66}$$

$$66 \times 2 - 2 = 132 - 2 = 130$$

96. (c) The pattern is :

$$4 \times 2 + 2 = 10$$

$$10 \times 3 + 3 = 33$$

$$33 \times 4 + 4 = 136$$

$$136 \times 5 + 5 = 680 + 5 = \boxed{685}$$

97. (c) The pattern is :

$$4000 \div 5 = 800$$

$$800 \div 2 = \boxed{400}$$

$$400 \div 5 = 80$$

$$80 \div 2 = 40$$

$$40 \div 5 = 8$$

98. (d) The pattern is :

$$3 \times 1 + 1^3 = 4$$

$$4 \times 2 + 2^3 = 8 + 8 = 16$$

$$16 \times 3 + 3^3 = 48 + 27 = 75$$

$$75 \times 4 + 4^3 = 300 + 64 = 364$$

$$364 \times 5 + 5^3 = 1820 + 125$$

$$= \boxed{1945}$$

99. (c) $\pi R^2 = 7 \times 2\pi R$

$$\Rightarrow R = 14$$

 \therefore Circumference of circle

$$= 2\pi R = 2 \times \frac{22}{7} \times 14$$

$$= 88 \text{ units}$$

100. (a) Let the principal be ₹ x , then

$$x \left(1 + \frac{15}{100} \right)^3 - x = \frac{650052}{100}$$

$$\Rightarrow x \times \frac{23}{20} \times \frac{23}{20} \times \frac{23}{20} - x = \frac{650052}{100}$$

$$\Rightarrow 12167x - 8000x = \frac{650052 \times 8000}{100}$$

$$\Rightarrow x = \frac{650052 \times 8000}{100 \times 4167} = 156 \times 80 = ₹ 12480$$

101. (b) **Keep busy** = keep engaged/involved.
102. (a) **Cripple (Verb)** = to damage somebody's body so that they are no longer able to walk or move normally: disable.
103. (e) **Share (Verb)** = to tell other people about your ideas, experiences and feelings.
104. (e) **Indicate (Verb)** = to show that something is true or exists.
105. (a) **Traditionally (Adverb)** = not changing for a long time.
106. (b) **Enquire about** = to ask somebody for some information.
107. (d) **Threat** = the possibility of trouble, danger or disaster.
108. (b) **Perfect** = Excellent; very good.
In store = waiting to happen to somebody
109. (a)
110. (b)
111. (c) Here, has set a benchmark.....should be used.
Benchmark = something which can be measured and used as a standard that other things can be compared with.
112. (a) Structure of sentence in Present Perfect:
Subject + has/have + V₃ (Past participle).
Hence, It has taken almost.....should be used.
113. (c) An adjective qualifies a noun. Hence, a constant (Adjective) flow (Noun).....should be used.
114. (c) There is a preposition related error, Hence, different from theshould be used.
Look at the sentence :
American english is significantly different from British English.
115. (b) Infinitive = To + V₁ (Plural Verb)
Hence, to createshould be used here.
116. (d) Here, mortality rate from this disease..... should be used.
Rate = a measurement of the number of time something happens or exists during a particular period.
Rating = a measurement of how good, popular, important somebody/something is in relation to other things.
117. (e)
118. (a) Having witnessed (Past Participle) the young soldier's ability.....should be used.
119. (d) Here, Present Simple i.e. that cause laughter all aroundshould be used as the sentence is in the present Tense.
120. (b) Infinitive without to follows wouldn't/shouldn't.
121. (a) Here, we are bringing in the idea.....should be used.
122. (d)
123. (d) There is preposition related error. Hence, qualified for a government job.....should be used.
124. (b) Here, have the device which (Pronoun) should be used.
125. (b) There is preposition related error. Hence, ensuring that at the time passengers.....should be used.
126. (d) 127. (c) 128. (e) 129. (d) 130. (b)
131. (e) 132. (c) 133. (c) 134. (b)
135. (c) The meaning of the word coater (Verb) as used in the passage is : to provide the things that a particular type of person wants.
Look at the sentence:
They only publish novels which cater to the massmarket.
Hence, the words catering and **supplying** are synonymous.
136. (e) The meaning of word **Key (Adjective)** as used in the passage is: most important: essential: critical: vital.
Look at the sentence:
He played a key role in the dispute
Hence, the words key and **important** are synonymous.
137. (b) The meaning of the word **Aggressive (Adjective)** as used in the passage is : acting with force and determination in order to succeed.
Look at the sentence:
A good sales person has to be aggressive in today's competitive market.
Hence, the words aggressive and determined are synonymous.
138. (e) The meaning of the word **Prosperous (Adjective)** as used in the passage is : rich and successful; affluent.
The word **Underprivileged (Adjective)** means: having less money and fewer opportunities than others; disadvantaged.
Hence, the words **prosperous** and **under privileged** are antonyms.
139. (a) The meaning of the word **Consume (Verb)** as used in the passage is : to use something.
Hence. the words **Consuming** and **destroying** and antonyms
140. (a) The meaning of the word **Surge (Noun)** as used in the passage is: a sudden increase of feeling: a sudden increase in the amount.
Look at the sentence:
We are having trouble keeping up with the recent surge in demand.
Hence, the words **Surge** and **decrease** are antonyms.
141. (c) 142. (a) 143. (d) 144. (e) 145. (a)
146. (b) 147. (d) 148. (c) 149. (e) 150. (b)
151. (b) 152. (c) 153. (c) 154. (c) 155. (d)
156. (a) 157. (a) 158. (c) 159. (c) 160. (a)
161. (c) 162. (a) 163. (e) 164. (b) 165. (d)
166. (e) 167. (b) 168. (d) 169. (e) 170. (e)
171. (a) 172. (e) 173. (b) 174. (c) 175. (a)
176. (b) 177. (d) 178. (c) 179. (d) 180. (c)
181. (a) 182. (c) 183. (b) 184. (b) 185. (d)
186. (a) 187. (a) 188. (d) 189. (a) 190. (b)
191. (d) 192. (d) 193. (b) 194. (d) 195. (c)
196. (b) 197. (a) 198. (c) 199. (b) 200. (e)