

# IBPS SPECIALIST (I.T.) OFFICER EXAM 2015

Based on Memory

## REASONING ABILITY

**DIRECTIONS (Qs. 1-5) :** Study the following information and answer the given questions. A word arrangement machine, when given an input line of words, rearrange them following a particular rule in each step. The following is an illustration of input and the steps of rearrangement.

**Input** Go for to though by easy To Access at  
**Step I** Access go for to though by easy To at  
**Step II** Access at go for to though by easy To  
**Step III** Access at by go for to though easy To  
**Step IV** Access at by easy go for to though To  
**Step V** Access at by easy for go to though To  
**Step VI** Access at by easy for go though to To  
**Step VII** Access at by easy for go though To to  
 (and step VII is the last step for this input). As per the rules followed in the above steps, find out in the following questions the appropriate step for the given output.

- Input** Together over series on feast the so which of the following steps will be the last but one?  
 (a) II (b) III  
 (c) IV (d) V  
 (e) None of these
- Input** Every and peer to an for which of the following steps would be 'an and every for peer to'?  
 (a) II (b) IV  
 (c) V (d) III  
 (e) None of these
- The step II of an input is as follows: 'and Do pet to an that'. Which of the following would definitely be the input?  
 (a) Do and pet to an that  
 (b) Do pet to and that on  
 (c) Do on pet to and that  
 (d) Cannot be determined  
 (e) None of these
- Input** 'Over Go for through at are'. Which steps will be the last step of the above input?  
 (a) II (b) VI  
 (c) IV (d) VII  
 (e) III
- Input** 'Story for around on was he at'. Which of the following will be step IV for the given input?  
 (a) around at He for story on was  
 (b) around at for He story on was  
 (c) around at for He on story was  
 (d) around at for He on was story  
 (e) None of these

**DIRECTIONS (Qs. 6-10):** In the following questions, the symbols are used as follows

A © B means 'A is greater than B'.

A ≡ B means 'A is either greater than or equal to B'.

A = B means 'A is equal to B'.

A @ B means 'A is smaller than B'.

A @ B means 'A is either smaller than or equal to B'.

Now in each of the following questions, assuming the three statements to be true, state which of the two conclusions I and II given below them is definitely true.

Given Answer (a) if only conclusion I is true;  
 Given Answer (b) if only conclusion II is true;  
 Given Answer (c) if either I or II is true;  
 Given Answer (d) if neither I nor II is true  
 Given Answer (e) if both I and II are true.

6. **Statements** Q @ R, R @ M, M @ D

**Conclusions** I. D © R II. D © Q

7. **Statements** M @ K, K © R, R © P

**Conclusions** I. P @ K II. P @ M

8. **Statements** T © M, M = P, P © R

**Conclusions** I. R @ T II. T © R

9. **Statements** P @ Q, Q © K, K @ M

**Conclusions** I. M = Q II. M © Q

10. **Statements** P © F, M @ F, F © N

**Conclusions** I. M © P II. N @ P

11. Pointing to a girl, Arun said, 'She is the daughter of my grandfather's only son.' How is the girl related to Arun?

- (a) Daughter (b) Sister  
 (c) Cousin sister (d) Data inadequate  
 (e) None of these

**DIRECTIONS (Qs. 12-16) :** Study the following information to answer the given questions.

Twelve cars viz Mercedes, Swift, Santro, Accord, Innova, Polo, Punto, Figo, Civic, City, Ferrari and Landrover are parked in two parallel rows containing six cars each, in such a way that there is an equal distance between adjacent cars. The cars parked in row-1 are parked in such a manner that the driver seated in the cars would face the South. In row-2, cars are parked in such a manner that the drivers seated in these cars would face the North. Therefore, in the given parking arrangement each car parked in a row faces another car of the other row.

- Mercedes being a big car must be parked at one of the extreme ends. Mercedes is parked second to the left of Santro. Santro faces Figo.
- Punto and Innova are parked immediately next to each other. Neither is parked next to Figo or Santro.

- (iii) Civic is parked in such a manner that its driver when seated in the parked car would face South. Civic is parked third to the left of Polo.
- (iv) City is parked in such a manner that it faces Ferrari. Ferrari is parked second to the left of Landrover. Landrover faces North and is not parked next to Figo.
- (v) Swift is parked third to the right of Ferrari and faces Innova. (Note Left and right parking directions are with reference to the driver as if the driver is seated in the car.)
12. How many cars are parked between Santro and Civic?  
 (a) One (b) Two  
 (c) Three (d) Four  
 (e) Both cars are parked in different rows
13. Polo is related to Ferrari in the same way as Innova is related to Accord. To which of the following is city related to, following the same pattern ?  
 (a) Mercedes (b) Innova  
 (c) Santro (d) Punto  
 (e) Landrover
14. Which of the following cars are parked at extreme ends of the rows ?  
 (a) Landrover, Punto (b) Innova, Polo  
 (c) Polo, Accord (d) Landrover, Innova  
 (e) Ferrari, Swift
15. Which of the following card faces Polo?  
 (a) Mercedes (b) Civic  
 (c) Landrover (d) Punto  
 (e) Accord
16. Which of the following is true regarding Figo?  
 (a) A driver seated in the parked Figo would face North  
 (b) Swift is parked second to the right of the car facing Figo  
 (c) Punto and Ferrari are parked immediately next to Figo  
 (d) Mercedes and Accord are parked at the extreme ends of the row in which figo is parked  
 (e) None is true

**DIRECTIONS (Qs. 17-18) :** Following question are based on the information given below

- (i) 'P × Q' means 'P is the brother of Q'.  
 (ii) 'P ÷ Q' means 'P is the sister of Q'.  
 (iii) 'P + Q' means 'P is the father of Q'.  
 (iv) 'P - Q' means 'P is the mother of Q'.

17. Which of the following represents 'M is nephew of N'?  
 (a)  $N - K + M$  (b)  $N \times K \div M \div T$   
 (c)  $N \div K \times M$  (d)  $N \div K + M \times T$   
 (e) None of these
18. How is T related to D in the expression:  $H + T \div R - D$ ?  
 (a) Nephew (b) Niece  
 (c) Nephew or Niece (d) Data inadequate  
 (e) None of these
19. Vijay started walking towards South. After walking 15m, he turned to the left and walked 15 m. He again turned to his left and walked 15 m. How far is he from his original position and in which direction?  
 (a) 15 m, North (b) 15 m, South  
 (c) 30 m, East (d) 15 m, West  
 (e) None of these

20. A river flows West to East and on the way turns left and goes in a semi-circle round a hillock and then turns left at right angles. In which direction is the river finally flowing?  
 (a) East (b) West  
 (c) North (d) South  
 (e) None of these

**DIRECTIONS (Qs. 21-25) :** Study the following information to answer the given questions.

Twelve people are sitting in two parallel rows containing six people each, in such a way that there is an equal distance between adjacent persons. In rows - 1 A, B, C, D, E and F are seated and all of them are facing South. In row - 2 P, Q, R, S, T and V are seated and all of them are facing North. Therefore, in the given seating arrangement each member seated in a row faces another member of the other row.

V sits third to right of S. S faces F and F does not sit at any of the extreme ends of the line. D sits third to right of C. R faces C. The one facing E sits third to right of P. B and P do not sit at the extreme ends of the line. T is not an immediate neighbour of V and A is not an immediate neighbour of C.

21. Who amongst the following faces D?  
 (a) T (b) P  
 (c) Q (d) R  
 (e) None of these
22. Who amongst the following represent the people sitting at extreme ends of the rows?  
 (a) R, F (b) T, A  
 (c) D, R (d) C, Q  
 (e) S, A
23. Four of the following five are alike in a certain way and thus form a group. Which is the one that does not belong to that group?  
 (a) B-T (b) A-Q  
 (c) C-S (d) F-P  
 (e) D-R
24. Four of the following five are alike in a certain way and thus form a group. Which is the one that does not belong to that group?  
 (a) D (b) S  
 (c) V (d) T  
 (e) A
25. How many persons are seated between R and T?  
 (a) One (b) Two  
 (c) Three (d) Four  
 (e) None of these

**DIRECTIONS (Qs. 26-30) :** Study the following information carefully and answer the given questions.

Representatives from eight different Banks viz., A, B, C, D, E, F, G and H are sitting around a circular table facing the centre but not necessarily in the same order. Each one of them is from a different Bank viz. UCO Bank, Oriental Bank of Commerce, Bank of Maharashtra, Canara Bank, Syndicate Bank, Punjab National Bank, Bank of India and Dena Bank.

F sits second to right of the representative from Canara Bank. Representative from Bank of India is an immediate neighbour of the representative from Canara Bank. Representative from Bank of India is an immediate neighbour

of the representative from Canara Bank. Two people sit between the representative of Bank of India and B. C and E are immediate neighbours of each other. Neither C nor E is an immediate neighbour of either B or the representative from Canara Bank. Representative from Bank of Maharashtra sits second to Right of D. D is neither the representative of Canara Bank nor Bank of India. G and the representative from UCO Bank are immediate neighbours of each other. B is not the representative of UCO Bank. Only one person sits between C and the representative from Oriental Bank of Commerce.

H sits third to left of the representative from Dena Bank. Representative from Punjab National Bank sits second to left of the representative from Syndicate Bank.

26. Who amongst the following sit exactly between B and the representative from Bank of India?
- A and the representative from UCO Bank
  - F and G
  - H and the representative from Bank of Maharashtra
  - H and G
  - Representative from Syndicate Bank and Oriental Bank of Commerce
27. Who amongst the following is the representative from Oriental Bank of Commerce?
- A
  - C
  - H
  - G
  - D
28. Four of the following five are alike in a certain way based on the given arrangement and thus form a group. Which is the one that does not belong to that group?
- H-UCO Bank
  - A - Canara Bank
  - D - Bank of Maharashtra
  - E - Syndicate Bank
  - F - Punjab National Bank
29. Who amongst the following sits second to left of B?
- C
  - H
  - The representative from Canara Bank
  - The representative from Punjab National Bank
  - G
30. Which of the following is true with respect to the given seating arrangement?
- B is the representative from Bank of Maharashtra
  - C sits second to right of H
  - The representative from Dena Bank sits to the immediate left of the representative from UCO Bank
  - A sits second to right of the representative from Bank of India
  - The representatives from Bank of Maharashtra and Syndicate Bank are immediate neighbours of each other

**DIRECTIONS (Qs. 31-35) :** In each of the question sets below are two/three statements 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 and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

- Give answer
- If only conclusion I follows
  - If only conclusion II follows
  - If either conclusion I or conclusion II follows
  - If neither conclusion I nor conclusion II follows
  - If both conclusion I and conclusion II follow

**Statements (Qs. 31 to 33) :** All stars are bottles. Some bottles are paper. No paper is a calendar.

**31. Conclusions**

- Atleast some calendars are bottles.
- No calendar is a star.

**32. Conclusions**

- All stars being papers is a possibility.
- No calendar is a bottle

**33. Conclusions**

- All calendars being stars is a possibility.
- Atleast some bottles are stars.

**Statements (Qs. 34 to 35) :** Some pencils are blankets. All blankets are erasers.

**34. Conclusions**

- Atleast some pencils are erasers
- All erasers being pencils is a possibility

**35. Conclusions**

- No eraser is a pencil.
- All blankets being pencils is a possibility.

**DIRECTIONS (Qs. 36-38) :** In making decisions about important questions, it is desirable to distinguish between 'strong' argument and 'weak' argument. A 'strong' argument must be both important and directly related to the question. A 'weak' argument may not be directly related to the question and may be of minor importance or may be related to the trivial aspect of the question. Each question below is followed by two arguments, numbered I and II. You have to decide which of the arguments is 'strong' and which is 'weak'

Give answer

- if only argument I is strong
- if only argument II is strong
- if either I or II strong
- if neither I nor II is strong and
- if both I and II are strong.

**36. Statement** Keeping in consideration the longevity of life in India, should the age limit for retirement in government jobs be increased?

**Argument**

- Yes, other countries have decided so long before.
- Yes, it is the actual demand of lakhs of employees.

**37. Statement** Should the admission to professional courses in India be given only on merit without any concession to any particular group of students?

**Argument**

- Yes, this will improve the quality of the professionals as they will be able to complete the courses successfully.
- No, this will keep large number of socially and economically backward students out of the reach of the professional courses.

**38. Statement** Should private companies be allowed to operate air services in India?

**Argument**

- I. Yes, Indian Private Managements usually give better services.
- II. No, we should not ape the western countries.

**DIRECTIONS (Qs. 39 to 40) :** In each of the questions, below is given a statement followed by two courses of action. Course of action is a step for administrative decision to be taken for improvement, follow up or further action in regard to the problem, policy etc. On the basis of the information given in statement, you have to assume everything in the statement to be true, then decide which of the given suggested courses of action is/are logically worth pursuing.

Give your answer as

- (a) if only I follows
- (b) if only II follows
- (c) if either I or II follows
- (d) if neither I nor II follows
- (e) if both I and II follow

**39. Statement** The central Bureau of Investigation receives the complaint of an officer taking bribe to do the duty he is supposed to.

**Courses of Action**

- I. CBI should wait for some more complaints about the officer to be sure about the matter.
- II. CBI should try to catch the officer red-handed and then take a strict action against him

**40. Statement** There has been significant drop in the water level of all the lakes supplying water to the city.

**Courses of Action**

- I. The water supply authority should impose a partial cut in supply to tackle the situation.
- II. The government should appeal to all residents through mass media for minimal use of water.

**41.** In a certain code 'CURATIVE' is written as 'BSVDDUHS' How is 'STEAMING' written in that code?

- (a) BFUTFMHL
- (b) TUFBFMHL
- (c) BFUTLHMF
- (d) BFUTHOJN
- (e) All of these

**42.** Four the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

- (a) X-ray
- (b) Telephone
- (c) Computer
- (d) Radio
- (e) Television

**DIRECTIONS (Qs. 43-45) :** Study the following information carefully and answer the given questions.

Any further increase in the population level in the city by way of industrial effluents and automobile exhaustions would pose a severe threat to the inhabitants.

- (A) All the factories in the city should immediately be closed down.
- (B) The automobiles should not be allowed to ply on the road for more than four hours a day.

(C) The government should restrict the issue of fresh licences to factories and automobiles.

(D) Cancer, heart attacks, brain strokes, tuberculosis are the major disease which are rapidly increasing in industrial cities.

(E) All types of pollutants are very harmful for health.

(F) Excessive growth of industries has increased the pollution level in the city.

**43.** Which of the following among (A), (B), (C) and (D) can be an immediate **course of action** for the Government?

- (a) Only (A)
- (b) Only (B)
- (c) Only (C)
- (d) Only (D)
- (e) All of these

**44.** Which of the following among (A), (B), (C) and (D) can not be an immediate **course of action** for the government?

- (a) Only (A)
- (b) Only (B)
- (c) Both (A) and (B)
- (d) Only (D)
- (e) None of these

**45.** Which of the following (A), (B), (D) and (E) may be the **effect** of increment in the pollution level in the city?

- (a) Only (A)
- (b) Only (B)
- (c) Only (D)
- (d) Only (E)
- (e) None of these

**DIRECTIONS (Qs. 46-50) :** Study the following information carefully and answer the questions given below:

Eight persons, A, B, C, D, E, F, G and H, are sitting around a rectangular table in such a way that two persons sit on each of the four sides of the table facing the centre. Persons sitting on opposite sides are exactly opposite to each other.

D faces North and sits exactly opposite H. E is on the immediate left of H. A and G sit on the same side. G is exactly opposite B, who is on the immediate right of C. A is next to the left of D.

**46.** Who is sitting opposite A?

- (a) G
- (b) D
- (c) E
- (d) A
- (e) None of these

**47.** Who is next to E in clockwise direction?

- (a) G
- (b) B
- (c) F
- (d) A or F
- (e) None of these

**48.** Which of the following pairs of persons has both the persons sitting on the same side with first person sitting to the right of second person?

- (a) DF
- (b) CB
- (c) FC
- (d) AG
- (e) None of these

**49.** Who is sitting opposite E?

- (a) D
- (b) A
- (c) F
- (d) A or D
- (e) None of these

**50.** Which of the following statements is definitely true?

- (a) A is facing North
- (b) E is sitting opposite F
- (c) F is the left of G
- (d) C is to the left of A.
- (e) None of these



## QUANTITATIVE APTITUDE

51. If the cost price of 15 articles be equal to the selling price of 20 articles, then find the loss% in the transaction.  
 (a) 16% (b) 20%  
 (c) 25% (d) 26%  
 (e) None of these
52. A toy is in the shape of a hemisphere surmounted by a cone. If radius of base of the cone is 3 cm and height is 4cm. The total surface area of the toy is :  
 (a)  $33\pi \text{ cm}^2$  (b)  $42\pi \text{ cm}^2$   
 (c)  $66\pi \text{ cm}^2$  (d)  $56\pi \text{ cm}^2$   
 (e) None of these
53. Two trains of length 110 m and 90 m are running on parallel lines in the same direction with a speed of 45km/h and 50 km/h respectively. In what time will they pass other?  
 (a) 136 s (b) 138 s  
 (c) 142 s (d) 146 s  
 (e) None of these
54. A man rows 25 km downstream and 20 km upstream taking 5 h each time. What is the velocity of the current?  
 (a) 1 km/h (b) 2.5 km/h  
 (c) 3.5 km/h (d) 4.5 km/h  
 (e) None of these
55. A works twice as fast as B. If B can complete a work in 24 days independently, the number of days in which A and B can together finish the work is  
 (a) 12 days (b) 9 days  
 (c) 8 days (d) 6 days  
 (e) None of these
56. A, B and C enter into a partnership by investments ₹15000, ₹21000 and ₹27000 respectively. At the end of 8 months, B receives ₹1260 as his share. Find the share of A.  
 (a) ₹600 (b) ₹1620  
 (c) ₹1080 (d) ₹720  
 (e) None of these
57. The average weight of 25 students is 16 kg. The average weight of the first 12 students is 14 kg and of the last 12 students is 17 kg. Find the weight of the thirteenth student.  
 (a) 29 kg (b) 22 kg  
 (c) 27 kg (d) 24 kg  
 (e) None of these
58. What will be the difference between simple interest and compound interest at 4% per annum on a sum of ₹5000 after 3 yr?  
 (a) ₹24.32 (b) ₹28.56  
 (c) ₹32.48 (d) ₹36.18  
 (e) None of these
59. Pure milk costs ₹20 per litre. After adding water the milkman sells the mixture at the rate of ₹18 per litre, thereby making a profit of 25%. In what ratio does he mix the two?  
 (a) 18 : 7 (b) 18 : 5  
 (c) 12 : 7 (d) 12 : 5  
 (e) None of these
60. A car driver travels from the plains to a hill station. Which are 200 km apart at an average speed of 40 km/h. In the return trip he covers the same distance at an average speed of 20 km/h. The average speed of the car over the entire distance of 400 km is

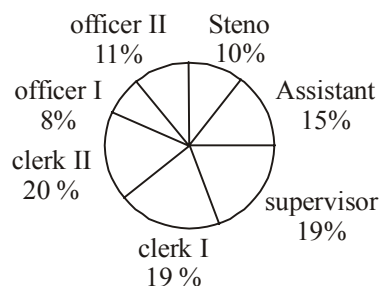
- (a) 16.56 km/h. (b) 17.89 km/h.  
 (c) 26.67 km/h. (d) 35 km/h.  
 (e) None of these

**DIRECTIONS (Qs. 61-65) :** What will come in place of question mark (?) in the following questions ?

61. 6, 7, 16, 51, 208, ?  
 (a) 1036 (b) 1042  
 (c) 1048 (d) 1056  
 (e) None of these
62. 18, 48, 100, 180, 294, 448, ?  
 (a) 979 (b) 586  
 (c) 732 (d) 648  
 (e) None of these
63. 289, 361, 529, 841, 961, ?  
 (a) 2209 (b) 2136  
 (c) 1849 (d) 1681  
 (e) 1369
64. 8, 31, 122, 485, 1936, 7739, ?  
 (a) 30460 (b) 30720  
 (c) 30840 (d) 30950  
 (e) None of these
65. 8484, 4248, 2112, 1074, 513, 286.5, ?  
 (a) 136.25 (b) 161.25  
 (c) 107.25 (d) 112.25  
 (e) None of these

**DIRECTIONS (Qs. 66-70) :** Study the following information to answer the given questions.

**Percentage of Different Types of Employees in an Organization**  
**Total Employees = 7000**



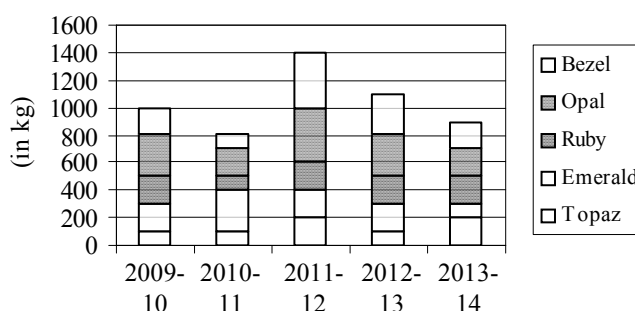
Employee	Out of these Direct	Percent of promotees
Steno	30	70
Assistant	40	60
Supervisor	50	50
Clerk I	90	10
Clerk II	30	70
Officer I	90	10
Officer II	70	30

66. What is the difference in direct recruit and promotee assistants?  
 (a) 210 (b) 280  
 (c) 180 (d) 110  
 (e) None of these

67. The promotee clerk I is approximately what per cent of that of direct recruit clerk I?  
 (a) 10 (b) 9  
 (c) 11 (d) 10.50  
 (e) 9.75
68. How many employees are supervisor?  
 (a) 1050 (b) 1019  
 (c) 1109 (d) 1290  
 (e) None of these
69. How many total direct recruits among all types of employees are there?  
 (a) 4000 (b) 3885  
 (c) 3000 (d) 3115  
 (e) None of these
70. Which type of employees has maximum number of direct recruits?  
 (a) Clerk I and Officer I (b) Officer I  
 (c) Clerk I (d) Clerk II  
 (e) None of these
74. Expenditure of company 'B' in years 2009 and 2010 were in the ratio of 5 : 7 respectively. What was the respective ratio of their incomes?  
 (a) 10 : 13 (b) 8 : 13  
 (c) 13 : 14 (d) 11 : 14  
 (e) None of these
75. Total expenditure of companies A and B together in 2014 was ₹13.5 lac. What was the total income of the two companies (in ₹ lac) in that year?  
 (a) 19.757 (b) 20.25  
 (c) 19.75 (d) Cannot be determined  
 (e) None of these

**DIRECTIONS (Qs. 76-80) :** The following questions are based on the stacked bar graph given below:

**Sales of Various precious Stones in India for the Period of 2009-2010 to 2013-2014**

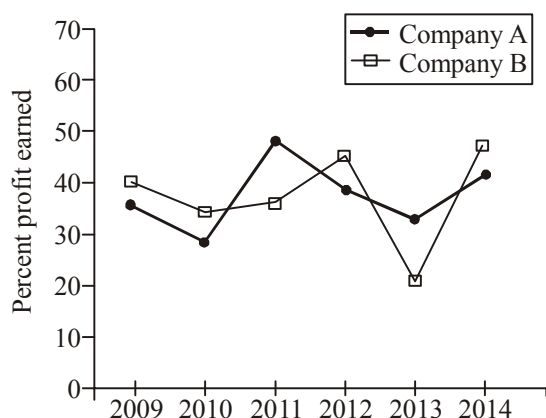


**DIRECTIONS (Qs. 71-75) :** Study the following graph to answer these questions.

**Percent Profit Earned by Two Companies A and B over the Years**

**Profit = Income - Expenditure**

$$\text{Percent profit} = \frac{\text{Profit}}{\text{Expenditure}} \times 100$$



71. If the income of company 'A' in 2011 was ₹142500 what was its expenditure in that year?  
 (a) ₹105000 (b) ₹95500  
 (c) ₹99500 (d) ₹105555  
 (e) None of these
72. Expenditure of company 'B' in 2012 was 90% of its expenditure in 2011. Income of company 'B' in 2012 was what percent of its income in 2011?  
 (a) 130.5 (b)  $96\frac{2}{3}$   
 (c) 121.5 (d)  $99\frac{1}{3}$   
 (e) None of these
73. If the expenditure of company 'A' in 2010 was ₹70 lac and income of company A in 2010 was equal to its expenditure in 2011. What was the total income (in lac ₹) of the company A in 2010 and 2011 together?  
 (a) 175 (b) 131.25  
 (c) 218.75 (d) Cannot be determined  
 (e) None of these
76. What is the total sales of Ruby as a per cent of the total sales of precious stones for the given period?  
 (a) 17.3% (b) 19.23%  
 (c) 23.1% (d) Cannot be determined  
 (e) None of these
77. By what percent is the average annual sales of Emerald for the given period more than the sales of Opal in 2012-13?  
 (a) 120% (b) 50%  
 (c) 25% (d) 40%  
 (e) None of these
78. For how many years is the sales of Bezel as a percentage of the total sales of precious stones less than that of Topaz?  
 (a) one (b) two  
 (c) three (d) four  
 (e) None of these
79. If the sales of Topaz increased from 2008-09 to 2014-15 by 25% and increased from 2013-2014 to 2014-15 by 50%, then what is the difference between the sales of Topaz in 2008-09 and that in 2014-15?  
 (a) 50000 tonnes (b) 100000 tonnes  
 (c) 140000 tonnes (d) 160000 tonnes  
 (e) None of these
80. Which of the given precious stones experienced the highest percentage growth in the sales in any year over that of the previous year for the period 2010-11 to 2013-14?  
 (a) Topaz (b) Emerald  
 (c) Ruby (d) Bezel  
 (e) None of these

**DIRECTIONS (Qs. 81-85):** Study the following information carefully to answer the questions given below it.

A survey conducted on 1800 villages shows that 25% of the total villages have only adequate water supply. 15% of the total number have proper supply of electricity only. 7% of the total number of villages have only proper education facilities. 12% of the total number of villages have tele-communication services only. 16% of the total number of villages have proper health care services only. 6% of the total number of villages have adequate water as well as supply of electricity. 8% of the total number of villages have adequate supply of water, electricity as well as health care services. 5% of the total number of villages have proper supply of electricity, tele-communication services as well as health care services and 6% of the total number of villages have all the facilities.

81. How many villages in all have adequate water supply ?  
 (a) 702 (b) 450  
 (c) 594 (d) 810  
 (e) None of these
82. How many villages in all have adequate supply of water as well as electricity?  
 (a) 360 (b) 108  
 (c) 720 (d) 972  
 (e) None of these
83. How many villages in all do not have proper supply of electricity?  
 (a) 720 (b) 850  
 (c) 920 (d) 1080  
 (e) None of these
84. How many villages have only proper education facilities?  
 (a) 108 (b) 126  
 (c) 234 (d) 216  
 (e) None of these
85. How many villages have all the facilities?  
 (a) 90 (b) 126  
 (c) 144 (d) 106  
 (e) None of these

**DIRECTIONS (Qs. 86-90):** Each of the question below consists of a question and two statements marked A and B given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer.

- (a) if the data in statement A alone is sufficient to answer the question.
  - (b) if the data in statement B alone is sufficient to answer the question.
  - (c) if the data either in statement A alone or in statement B alone is sufficient to answer the question
  - (d) if the data given in both statements A and B together are not sufficient to answer the question.
  - (e) if the data in both statements A and B together are necessary to answer the question.
86. What is the average age of children in the class?  
 A. Age of the teacher is as many yrs as the number of children.  
 B. Average age increased by 2 yr, if the teachers age is also included.

87. What is the average monthly income of a man if he saves ₹ 85000 during a year?  
 A. The average monthly expenditure for the first 4 months is ₹ 18000.  
 B. The average monthly expenditure for the next 8 months is ₹ 21000.
88. What is the salary of D, in a group A, B, C, D, E and F whose average salary is ₹ 45000?  
 A. Total salaries of A and F is ₹ 88900.  
 B. Total salaries of B and C is ₹ 95200.
89. What is the temperature on Thursday?  
 A. Average temperature for Monday, Tuesday and Wednesday is 34°C.  
 B. Average temperature for Tuesday, Wednesday and Thursday is 38°C.
90. The average of 12 numbers is 18. Find the new average when  
 A. The average of first 10 numbers is 20.  
 B. Each number is multiplied by 6.

**DIRECTIONS (Qs. 91-93):** What approximate value should come in place of the question mark (?) in the following questions? (Note that you are not expected to calculate the exact value)

91.  $195.994 \div 13.995 \div 2.5 = ?$   
 (a) 5.15 (b) 5.9  
 (c) 5.75 (d) 5.1  
 (e) 5.6
92.  $\sqrt{441.441} + \sqrt{256.256} = ?$   
 (a) 37 (b) 36  
 (c) 34 (d) 31  
 (e) 30
93.  $68.721 - 12.815 - 8.409 - 1.152 = ?$   
 (a) 62.915 (b) 67.115  
 (c) 58.295 (d) 52.715  
 (e) 46.345

**DIRECTIONS (Qs. 94 and 95):** What should come in place of question mark (?) in the following questions?

94.  $6 \times 0.6 \times 0.06 \times 0.006 \times 60 = ?$   
 (a) 77.76 (b) 7.776  
 (c) 0.7776 (d) 0.07776  
 (e) 0.00776
95.  $\frac{4.5 \times 3.7 + 4.5 \times 6.3}{1.5 \times 8.4 - 1.5 \times 7.4} = ?$   
 (a) 24 (b) 28  
 (c) 34 (d) 32  
 (e) 30

**DIRECTIONS (Qs. 96-100):** In each of these questions two equations are given. You have to solve these equations and Give answer.

- (a) if  $x < y$  (b) if  $x > y$
- (c) if  $x = y$  (d) if  $x \geq y$
- (e) if  $x \leq y$

96. I.  $x^2 - 6x = 7$   
 II.  $2y^2 + 13y + 15 = 0$
97. I.  $3x^2 - 7x + 2 = 0$   
 II.  $2y^2 - 11y + 15 = 0$
98. I.  $10x^2 - 7x + 1 = 0$   
 II.  $35y^2 - 12y + 1 = 0$
99. I.  $4x^2 = 25$   
 II.  $2y^2 - 13y + 21 = 0$
100. I.  $3x^2 + 7x = 6$   
 II.  $6(2y^2 + 1) = 17y$

## ENGLISH LANGUAGE

**DIRECTIONS (Qs. 101-106) :** Read the following passage carefully and answer the questions given below it. Certain words/phrases are given in bold to help you locate them while answering some of the questions.

Frustration is global cancer. It has spared no country. In some countries, frustration exists because these countries are populated by 'have-nots'. In other countries, which are populated by 'haves', frustration is among them also because they do have. As far as India is concerned its education system is breeding more and more frustration among both students and teachers. And yet, no one sees what can be done to make it more meaningful. Many reforms have been discussed at length but have come to nothing for one reason or another. The authorities are peddling the idea of autonomous colleges as a means of toning to teaching standards. They argue that by allowing certain colleges to introduce their own courses, hold seminar, and above all, **evolve** their own method of assessing students, students will get a far better deal. Indeed, they make out they such colleges will have free hand in nearly everything except granting degrees. In theory, all this sounds attractive enough. But there is little to show that the managements concerned are keen on such reforms. Even today, nothing prevents a college from inviting guest speakers on the specialist subjects or holding courses in English for vernacular students. But not a single one of these who are now clamoring for autonomy has bothered to do so. It is no secret that colleges which may be freed to an extend from university control are highly elitist. In Mumbai, for example, for example there is a big cultural gulf between city colleges and suburban colleges. If some of the former are now given a degree of autonomy, it will only **heighten** this disparity.

The answer to the **vexing** problem of declining standards in higher education does not lie in encouraging the growth to model institutions but in improving overall standards. This is of course easier said than done. Since more and more young people are seeking degrees, the only solution, however unpalatable it may sound, is drastically to reduce the number of those who are admitted to colleges. Even though there is political pressure on many state governments to build new colleges and to reserve more seats for backward classes, it will be sheer **folly** to expand such facilities recklessly without giving any thought to the quality of education imparted. If admissions are made

very selective, it will automatically reduce the number of entrants. This should apply particularly to new colleges, many of which are little more than degree factories. Only then can the authorities hope to bring down the teacher student ratio to manageable proportions what is more, teacher should be given refresher courses every summer vacation to brush up their knowledge. Besides, if college managements increase the library budget it will help both staff and students a great deal. At the same time, however, it will be unfair to deny college employers students a great deal. At the same time, however, it will be unfair to deny college deny college education to thousands of young men and women unless employers stop insisting join degress even for clerical jobs. For a start, why can't the Government disqualify graduates from securing certain jobs say class III and IV posts? Once the degrees are declined from jobs, at least in some important departments, it will make many young people think two before joining college.

101. The author's attitude is  
 (a) cynical (b) optimistic  
 (c) critical (d) conservative  
 (e) constructive
102. What, according to the passage, would be the granting autonomy to some colleges?  
 (a) The teacher-students ratio will come down  
 (b) Disparity between city and suburban colleges will increase  
 (c) Colleges will multiply  
 (d) Some colleges would start selling degress.  
 (e) All of the above
103. Which of the following is the most significant feature of the scheme of autonomous colleges according to the passage?  
 (a) They can introduce new courses  
 (b) They can hold seminars  
 (c) They can evolve their method of assessment  
 (d) They can award degrees  
 (e) They can make admissions without restrictions
104. The author does not believe that  
 (a) colleges have the capacity to develop courses  
 (b) colleges have the expertise for assessment  
 (c) some colleges are only degree factories  
 (d) colleges managements are really keen on reforms  
 (e) some colleges are elitist
105. To which of the following does the author give precedence?  
 (a) Increasing library facilities  
 (b) Holding refresher courses for teachers  
 (c) Abolishing reservation for teachers  
 (d) Stopping opening of new colleges  
 (e) Instituting entrance examinations
106. Frustration in the world is result of which of the following  
 (A) Large number d of Haves  
 (B) Large number of Have-nots  
 (C) Concerous cells  
 (a) Only (A) (b) Only (B)  
 (c) Only (C) (d) (A) and (B)  
 (e) None of these



**DIRECTIONS (Qs. 107 and 108) :** Choose the word which is most nearly the **same** in meaning to the word given **bold** used in the passage.

**107. Vexing**

- |                  |               |
|------------------|---------------|
| (a) Annoying     | (b) Recurring |
| (c) Irresolvable | (d) Complex   |
| (e) Dangerous    |               |

**108. Evolve**

- |               |             |
|---------------|-------------|
| (a) Introduce | (b) Start   |
| (c) Develop   | (d) Abandon |
| (e) Establish |             |

**DIRECTIONS (Qs. 109 and 110) :** Choose the word is **Most Opposite** in meaning to the word given in **bold** as used in the passage.

**109. Folly**

- |             |            |
|-------------|------------|
| (a) Right   | (b) Exact  |
| (c) Mistake | (d) Action |
| (e) Wisdom  |            |

**110. Heighten**

- |                |              |
|----------------|--------------|
| (a) Widen      | (b) Decrease |
| (c) Strengthen | (d) Dissolve |
| (e) Disappear  |              |

**DIRECTIONS (Qs. 111-115) :** Rearrange the following seven sentences (A), (B), (C), (D), (E), (F) and (G) in the proper sequence to form a meaningful paragraph; then answer the questions given below them.

- A. But seriously, how much would you pay to know what thoughts are swimming around in someone else's head?
- B. In most fictional movies thus, the idea of reading minds of seeing the private intentions of another, and the possibility of intervening in those plans & has always been highly attractive.
- C. Such fantastical questions have long been the bread and butter of fiction.
- D. Today, more than four centuries since the phrase, "A penny for your thoughts?", was first recorded, inflationary accounting makes that ancient penny worth more than \$40.
- E. The going rate for a "thought"- a probe into the thinking of another was once quite bargain
- F. And if you could really know their treeth fulness haw much more would you pay?
- G. Even with the sliding value of the dollar, this still seems quite a bargain.

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

- |       |       |
|-------|-------|
| (a) F | (b) D |
| (c) C | (d) G |
| (e) A |       |

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

- |       |       |
|-------|-------|
| (a) A | (b) B |
| (c) G | (d) D |
| (e) F |       |

**113.** Which of the following should be the **SIXTH** sentence after rearrangement?

- |       |       |
|-------|-------|
| (a) E | (b) G |
| (c) C | (d) B |
| (e) A |       |

**114.** Which of the following should be the **SEVENTH** (Last) sentence after rearrangement?

- |                   |       |
|-------------------|-------|
| (a) A             | (b) B |
| (c) F             | (d) D |
| (e) None of these |       |

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

- |       |       |
|-------|-------|
| (a) A | (b) B |
| (c) C | (d) D |
| (e) E |       |

**DIRECTIONS (Qs. 116-125) :** In the following passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each number five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

If you've ever watched a documentary where a cheeta his [116] a gazelle for its next meal, you know what agility is. As the two animals [117] in a sixty-mile an hour life-and-death race, agility and speed determine how the [118] the end. Whether the gazelle can [119] the cheetah or the cheetah can feed her cubs will be [120] by which animal is faster and more agile. Both animals have skeletal and muscle structures that enable them to be [121] swift and nimble. Southwest Airlines, like the cheetah and the gazelle, is lean and muscular and has quick [122] its agility in quickly [123] people and reconfiguring resources comes in part its [124] communication style. and its open communication is partly a function of its lean structure and [125] code of conduct.

- |                             |                   |
|-----------------------------|-------------------|
| <b>116.</b> (a) proceeding  | (b) leading       |
| (c) pursuing                | (d) racing        |
| (e) investigating           |                   |
| <b>117.</b> (a) bind        | (b) engage        |
| (c) conflict                | (d) interlock     |
| (e) pledge                  |                   |
| <b>118.</b> (a) debate      | (b) controversy   |
| (c) life                    | (d) confrontation |
| (e) fun                     |                   |
| <b>119.</b> (a) refrain     | (b) void          |
| (c) quash                   | (d) please        |
| (e) baffle                  |                   |
| <b>120.</b> (a) determined  | (b) ended         |
| (c) claimed                 | (d) defined       |
| (e) intended                |                   |
| <b>121.</b> (a) incredibly  | (b) excitedly     |
| (c) ironically              | (b) expectedly    |
| (e) believably              |                   |
| <b>122.</b> (a) Stimulation | (b) actions       |
| (c) positions               | (d) manifestation |
| (e) reflexes                |                   |
| <b>123.</b> (a) rendering   | (b) mobilizing    |
| (c) serving                 | (d) perparing     |
| (e) changing                |                   |
| <b>124.</b> (a) smooth      | (b) complex       |
| (c) defined                 | (d) streamlined   |
| (e) resistant               |                   |

125. (a) lively (b) lax  
(c) informal (d) non-existent  
(e) vague

**DIRECTIONS (Qs. 126-130) :** Which of the phrases (1), (2), (3) and (4) given below should replace the phrase given in **bold** type in the following sentence to make the sentence grammatically meaningful and correct? If the sentence is correct as it is and no correction required, make (5) as the answer.

126. The rationale for the use of various **measures were known** to people since long.  
(a) measure was being known  
(b) measure had known  
(c) measure had been known  
(d) measure to be known  
(e) No correction required
127. The inmates of prison refused water stating that **they are no** hunger strike.  
(a) they are under (b) we have been under  
(c) we would be at (d) they were on  
(e) No correction required
128. The differences **could resolve** through negotiations.  
(a) should resolve (b) should have resolved  
(c) could be resolved (d) could have resolved  
(e) No correction required
129. The construction work was **in full swing**.  
(a) in fully swinging (b) fully swinging  
(c) swinging in full (d) at full swinging  
(e) No correction required
130. **What does it matter** most is what you talk to other rather than how you do so.  
(a) What matters (b) What matters it  
(c) How does it matter (d) What it matters  
(e) No correction required

**DIRECTIONS (Qs. 131-140) :** Read each sentence to find out whether there is any error in it. The error, if any, will be in one part of the sentence, the name of the part is the answer. If there is No error, the answer is (e).

131. This is the wristwatch (a)/ which my uncle (b)/brought it (c)/for you. (d)/ No error (e)
132. "Harish is comparatively better (a)/ today and we hope that (b)/he will recover soon", (c)/said Ramesh. (d)/ No error (e)
133. When he lent me (a)/ some money, he asked (b)/to return it back (c)/within a week. (d)/ No error (e)
134. He doesn't hardly know (a)/ about the real factors (b)/that have created (c)/so many problems. (d)/ No error (e)
135. He reimbursed back (a)/ the money which (b)/I spent (c)/on his medical treatment. (d)/ No error (e)
136. My friend asked (a)/ me if there was any place (b)/in the (c)/compartment for him. (d)/ No error (e)
137. All his family members (a)/ are (b)/social (c)/and cooperative. (d)/ No error (e)
138. According to me (a)/ every student should (b)/go through the (c)/notes given by the professors. (d)/ No error (e)

139. I want to joint (a)/ lecturership (b)/because I think it is a (c)/peaceful proffession. (d)/ No error (e)
140. We must wait (a)/ for quiter time before (b)/the claim of civilization (c)/can override over the claims of the party spirit. (d)/ No error (e)

**DIRECTIONS (Qs. 141-145) :** Choose the correct alternatives.

141. The \_\_\_\_\_ of the Minister's statement cannot be verified by people who have no access to official records.  
(a) veracity (b) verbosity  
(c) ambiguity (d) validity  
(e) None of these
142. The more your action and thought are allied and \_\_\_\_\_ the happier you grow.  
(a) diverget (b) unravelled  
(c) integrated (d) invincible  
(e) None of these
143. The Hubble Space Telescope will search for planets around the stars, a key to the \_\_\_\_\_ extraterrestrial life, and examine interstellar dust and gases out of which stars are born.  
(a) perception (b) discovery  
(c) enquiry (d) quest  
(e) None of these
144. He knew everything better than anybody else, and it was an affront to his \_\_\_\_\_ vanity that you should disagree with him.  
(a) overstrung (b) overweening  
(c) overwhelming (d) overwrought  
(e) None of these
145. One major \_\_\_\_\_ between the Election Commission and the Union Government related to the powers of the former in respect of the deployment of central police forces at places where are elections is held.  
(a) irritant (b) conflict  
(c) pain (d) culprit  
(e) None of these

**DIRECTIONS (Qs. 146-150) :** In each question, an incomplete statement followed by fillers is given. Pick out the best one which can complete incomplete stem correctly and meaningfully.

146. In order to help the company attain its goal of enhancing profit, all the employees \_\_\_\_\_  
(a) urged the management to grant paid leave  
(b) appealed the management to implement new welfare schemes  
(c) voluntarily offered to work overtime with lucrative compensation  
(d) voluntarily offered to render additional services in lieu of nothing  
(e) decided to enhance production at the cost of quality of the product
147. His behaviour is so unpredictable that he \_\_\_\_\_  
(a) never depends upon others for getting his work done  
(b) is seldom trusted by others  
(c) always finds it difficult to keep his word  
(d) always insists on getting the work completed on time  
(e) seldom trusts others as far as the work schedule is concerned

148. Although initial investigations pointed towards him \_\_\_\_\_  
 (a) the preceding events corroborated his involvement in the crime  
 (b) the additional information confirmed his guilt  
 (c) the subsequent events established that he was guilty  
 (d) the subsequent events proved that he was innocent  
 (e) he gave an open confession of his crime
149. The weather outside was extremely pleasant and hence we decided to \_\_\_\_\_  
 (a) utilise our time in watching the television  
 (b) refrain from going out for a morning walk  
 (c) enjoy a morning ride in the open  
 (d) employ this rare opportunity for writing letters  
 (e) remain seated in our rooms in the bungalow
150. With great efforts his son succeeded in convincing him not to donate his entire wealth to an orphanage \_\_\_\_\_  
 (a) and lead the life of a wealthy merchant  
 (b) but to a home for the forsaken children  
 (c) and make an orphan of himself  
 (d) as the orphanage needed a lot of donations  
 (e) as the orphanage had been set up by him
156. What is the valid host range the IP address 172.16.10.22 255.255.255.240 is a part of?  
 (a) 172.16.10.20 through 172.16.10.22  
 (b) 172.16.10.1 through 172.16.10.255  
 (c) 172.16.10.16 through 172.16.10.23  
 (d) 172.16.10.17 through 172.16.10.31  
 (e) 172.16.10.17 through 172.16.10.30
157. Which of the following are invalid SQL language elements?  
 (a) colon  
 (b) Queries which retrieve data based on specific criteria.  
 (c) Expressions which can produce either scalar values or tables consisting of columns and rows of data.  
 (d) Statements which may have a persistent effect on schemas and data, or which may control transactions, program flow, connections, sessions, or diagnostics.  
 (e) None of these
158. Which protocol working at the Transport layer provides a connectionless service between hosts?  
 (a) IP (b) ARP  
 (c) TCP (d) UDP  
 (e) None of these
159. Which of the following categories of the data integrity RDBMS will enforce specific business rules:  
 (a) Entity Integrity  
 (b) Domain Integrity  
 (c) Referential integrity  
 (d) User-Defined Integrity  
 (e) None of these

## PROFESSIONAL KNOWLEDGE

151. The number of tuples in a relation is called its \_\_\_\_\_. While the number of attributes in a relation is called it's \_\_\_\_\_.  
 (a) Degree, Cardinality (b) Cardinality, Degree  
 (c) Rows, Columns (d) Columns, Rows  
 (e) None of these
152. Which of the following is false for a query?  
 (a) It is an expression which on evaluation returns results from the DBMS.  
 (b) It is a command given to the DBMS  
 (c) DBMS might support some kind of command to execute a query  
 (d) queries make the database useful  
 (e) None of these
153. What are the valid responses of a RDBMS?  
 (a) Completion codes  
 (b) Messages  
 (c) Results of the queries  
 (d) all of the above  
 (e) None of these
154. The GROUP BY clause is not:  
 (a) used to combine, or group, rows with related values into elements of a smaller set of rows.  
 (b) often used in conjunction with SQL aggregate functions  
 (c) used to preserve duplicate rows in a result set.  
 (d) used to eliminate duplicate rows from a result set.  
 (e) None of these
155. The parameter which gives probability of the transport layer itself spontaneously termination 2 a connection due to internal problem is called?  
 (a) Protection  
 (b) resilience  
 (c) option negotiation  
 (d) transfer failure  
 (e) None of these
160. SQL is all but:  
 (a) SQL is an ANSI standard computer language  
 (b) SQL allows you to access a database  
 (c) SQL allows you to execute queries against a database  
 (d) SQL does not allow you to update records in a database  
 (e) None of these
161. Disk scheduling includes deciding  
 (a) which should be accessed next  
 (b) order in which disk access requests must be serviced  
 (c) the physical location of the file  
 (d) the logical location of the file  
 (e) None of these
162. Which among following scheduling algorithms give minimum average waiting time  
 (a) FCFS (b) SJF  
 (c) Round robin (d) On priority  
 (e) None of these
163. What is not true about COMMIT and ROLLBACK?  
 (a) interact with areas such as transaction control and locking.  
 (b) COMMIT alone cannot make data permanent.  
 (c) both terminate any open transaction and release any locks held on data.  
 (d) both maintain consistency of database.  
 (e) None of these
164. Which of the following is a function of e-mail system?  
 (a) Composition (b) Transfer  
 (c) Reporting (d) All of above  
 (e) None of these

165. Mobile computers and personal digital assistant (PDAs) are the examples of ?  
 (a) Radio broadcasting  
 (b) Wireless network  
 (c) Geosynchronous  
 (d) LAN  
 (e) None of these
166. The XOR operator + is?  
 (a) commutative  
 (b) associative  
 (c) distributive over AND operator  
 (d) (a) and (b)  
 (e) None of these
167. An identifier in C?  
 (a) is a name of thing such as variable and function  
 (b) is made up of letters numerals and the underscore  
 (c) can contain both uppercase and lowercase letters  
 (d) All of above  
 (e) None of above
168. Milestones are used to ?  
 (a) Know the cost of the project  
 (b) Know the status of the project  
 (c) Know the user expectations  
 (d) None of the above  
 (e) None of these
169. The average search time of hashing with linear probing will be less if the load factor ?  
 (a) is far less than one  
 (b) equals one  
 (c) is far greater than one  
 (d) none of above  
 (e) None of these
170. Negative numbers can't be represented in ?  
 (a) signed magnitude form  
 (b) 1's complement form  
 (c) 2's complement form  
 (d) None of above  
 (e) None of these
171. Sending a file from your personal computer's primary memory or disk to another computer is called?  
 (a) Uploading  
 (b) hang on  
 (c) logging on  
 (d) downloading  
 (e) None of these
172. The memory cell of a dynamic RAM is simpler and smaller than the memory cell of a \_\_\_\_\_ RAM?  
 (a) volatile  
 (b) semiconductor  
 (c) static  
 (d) bipolar  
 (e) None of above
173. The normal form that is not necessarily dependency preserving is  
 (a) 2NF  
 (b) 3NF  
 (c) BCNF  
 (d) 4NF  
 (e) None of these
174. Fifth Normal form is concerned with  
 (a) Functional dependency  
 (b) Multivalued dependency  
 (c) Join dependency  
 (d) Domain key  
 (e) None of these
175. A \_\_\_\_\_ Does not have a distinguishing attribute if its own and mostly are dependent entities, which are part of some another entity.  
 (a) Weak entity  
 (b) Strong entity  
 (c) Non attributes entity  
 (d) Dependent entity  
 (e) None of these
176. \_\_\_\_\_ is the complex search criteria in the where clause.  
 (a) Sub string  
 (b) Drop Table  
 (c) Predict  
 (d) Predicate  
 (e) None of these
177. The term module in the design phase refers to?  
 (a) Functions  
 (b) Procedures  
 (c) Sub programs  
 (d) All of the above  
 (e) None of these
178. Switch is a Device of \_\_\_\_\_ Layer of OSI Model.  
 (a) Network Layer  
 (b) Data Link Layer  
 (c) Application Layer  
 (d) Session Layer  
 (e) None of these
179. The number of binary trees with 3 nodes which when traversed in post order gives the sequence A, B, C is?  
 (a) 3  
 (b) 9  
 (c) 7  
 (d) 5  
 (e) None of these
180. Which database level is closest to the users?  
 (a) External  
 (b) Internal  
 (c) Physical  
 (d) Conceptual  
 (e) None of these
181. Which are the two ways in which entities can participate in a relationship?  
 (a) Passive and active  
 (b) Total and partial  
 (c) Simple and Complex  
 (d) All of the above  
 (e) None of these
182. Which among these is incorrect for relations?  
 (i) degree-number of tuples  
 (ii) relation-table  
 (iii) tuple-row  
 (iv) attribute-column  
 (a) only (i)  
 (b) (i) and (ii)  
 (c) (i) and (iii)  
 (d) (iii) and (iv)  
 (e) None of these
183. What is meant by type in RDBMS?  
 (a) Domain.  
 (b) Range.  
 (c) Named set of values.  
 (d) Both (a) and (c)  
 (e) None of these
184. A database schema includes the following information except:  
 (a) interface for user to interact  
 (b) Format for storage representation  
 (c) Integrity parameters such as physically authorization and backup policies.  
 (d) Characteristics of data items such as entities and attributes  
 (e) None of these



- 185.** Which of the following is not true?  
 (a) External view: highest level of abstraction as seen by a user  
 (b) Conceptual view: sum total of Data Base Management System user's views.  
 (c) Internal level :middle level of abstraction  
 (d) Internal level: how the data are physically stored.  
 (e) None of these
- 186.** Which of the following is true about WHERE clause?  
 (a) does not include a comparison predicate,  
 (b) no restriction on the number of rows  
 (c) eliminates all rows from the result set where the comparison predicate does not evaluate to True  
 (d) The WHERE clause is applied after the GROUP BY clause.  
 (e) None of these
- 187.** What protocol is used to find the hardware address of a local device?  
 (a) RARP (b) ARP  
 (c) IP (d) ICMP  
 (e) BootP
- 188.** Establishing a virtual connection is functionally equivalent to?  
 (a) Connecting as virtual memory  
 (b) Physically connecting a DTE and DCE  
 (c) Placing a telephone call prior to a conversation  
 (d) Placing a modem prior to a conversation  
 (e) None of above
- 189.** Which of the following is a variation of Frequency Division multiplexing (FDM) ?  
 (a) Time division Multiplexing (TDM)  
 (b) Pulse Code Multiplexing (PCM)  
 (c) Wavelength Division Multiplexing (WDM)  
 (d) None of above  
 (e) All of the these
- 190.** The binary equivalent of the Gray code 11100 is \_\_\_\_\_ ?  
 (a) 10111 (b) 00111  
 (c) 01011 (d) 10101  
 (e) None of these
- 191.** Star Topology is Based On a Central Device that can be \_\_\_\_\_ ?  
 (a) HUB (b) Switch  
 (c) Only (a) (d) Both (a) and (b)  
 (e) None of these
- 192.** Any program in C has access to three standard files?  
 (a) Standard input file, standard output file, standard error file  
 (b) Stdin, stdout, stderr  
 (c) All of above  
 (d) Key words, screen, stderr  
 (e) All of above
- 193.** The index register in a digital computer is used for?  
 (a) Pointing to the stack address  
 (b) Indirect addressing  
 (c) Keeping track of number of times a loop is executed  
 (d) Address modification  
 (e) None of these
- 194.** The HAVING clause:  
 (a) includes a comparison predicate used to eliminate rows after the GROUP BY clause is applied to the result set  
 (b) it acts on the results of the GROUP BY clause,  
 (c) aggregate functions can be used in the HAVING clause predicate  
 (d) all of the above  
 (e) None of these
- 195.** What are the functions of DCL?  
 (a) handling the authorization aspects of data.  
 (b) permitting the user to control who has access to see or manipulate data within the database.  
 (c) both (a) and (b)  
 (d) (a) only  
 (e) None of these
- 196.** Which of these are the activities done by RDBMS?  
 (a) take note of authorisations  
 (b) take note of constraints  
 (c) Update variables according to authorisations and constraints  
 (d) all of the above  
 (e) None of these
- 197.** Which of the following are the properties of entities?  
 (a) Groups (b) Table  
 (c) Attributes (d) Switchboards  
 (e) None of these
- 198.** \_\_\_\_\_ is preferred method for enforcing data integrity  
 (a) Constraints (b) Stored Procedure  
 (c) Triggers (d) Cursors  
 (e) None of these
- 199.** \_\_\_\_\_ data type can store unstructured data  
 (a) RAW (b) CHAR  
 (c) NUMERIC (d) VARCHAR  
 (e) None of these
- 200.** A DBMS responds to commands given by  
 (a) general purpose application programs  
 (b) Custom developed application programs  
 (c) users  
 (d) all of the above  
 (e) None of these

# HINTS & SOLUTIONS

1. (d) **Step I** feast Together over series on the so  
**Step II** feast on Together over series the so  
**Step III** feast on over Together series the so  
**Step IV** feast on over series Together the so  
**Step V** feast on over series so Together the  
**Step VI** feast on over series so the Together
2. (d) Using the above rule, we observe that 'are and every for peer to' will be the III and last step for the given input.
3. (d) For the given step we cannot definitely find out the input because the position of the words in input cannot be determined.
4. (c) **Step I** are over Go for through at  
**Step II** are at over Go for through  
**Step III** are at for over Go through  
**Step IV** are at for Go over through
5. (b) The step IV for the given input will be 'around at for He story on was'.

(Qs. 6-10) :

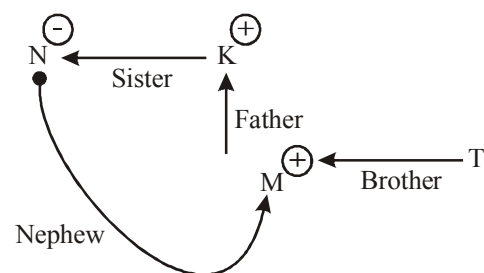
6. (e) Here  $Q < R < M \leq D$  or  $D \geq M > R > Q$   
 Now, I.  $D \odot Q \Rightarrow D > R$  (True)  
 II.  $D \odot Q \Rightarrow D > Q$  (True)
7. (a) Here  $M < K > R > P$   
 Now, I.  $P @ K \Rightarrow P < K$  (True)  
 II.  $P @ M \Rightarrow P < M$  (False)
8. (e) Here  $T > M = P > R$   
 Now, I.  $R @ T \Rightarrow R < T$  (True)  
 II.  $T \odot R \Rightarrow T > R$  (True)
9. (d) Here  $P < Q > K < M$   
 Now, I.  $M = Q \Rightarrow M = Q$  (False)  
 II.  $M \odot Q \Rightarrow M > Q$  (False)
10. (b) Here  $P \geq F > N, M < F$   
 Now, I.  $M \odot P \Rightarrow M > P$  (False)  
 II.  $N @ P \Rightarrow N > P$  (True)
11. (b) Girl is the daughter of Arun's father. Hence, she is Arun's sister.

(Qs. 12-16) :

Polo	City	Figo	Civic	Innova	Punto
Mercedes	Ferrari	Santro	Landrover	Swift	Accord

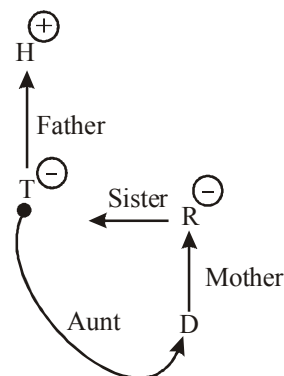
12. (e) Both cars are parked in different rows.

13. (c) Car parked opposite to Polo is Mercedes and Ferrari is to the immediate right of Mercedes. Similarly, Ferrari is parked opposite to city and Santro is to the immediate right of Ferrari.
14. (c) Polo and Accord are parked at the extreme ends of the rows.
15. (a) Mercedes faces Polo.
16. (b) Swift is parked record to the right of the car facing Figo i.e, Santro.
17. (d)  $N \div K + M \times T$



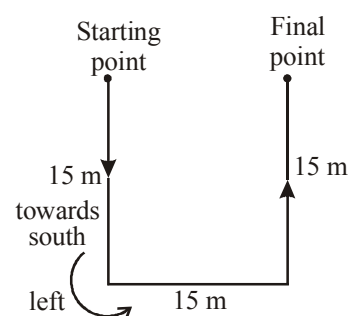
Hence, M is Nephew of N.

18. (e)  $H + T \div R - D$



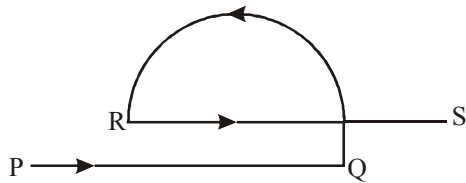
Hence, T is aunt of D.

19. (e) Follow the given movements,



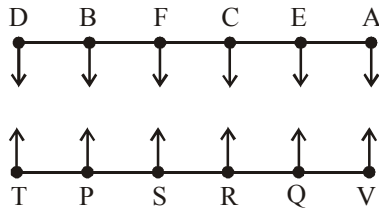
Hence, he is 15 m to the East from the starting point.

20. (a) Follow the given movements,



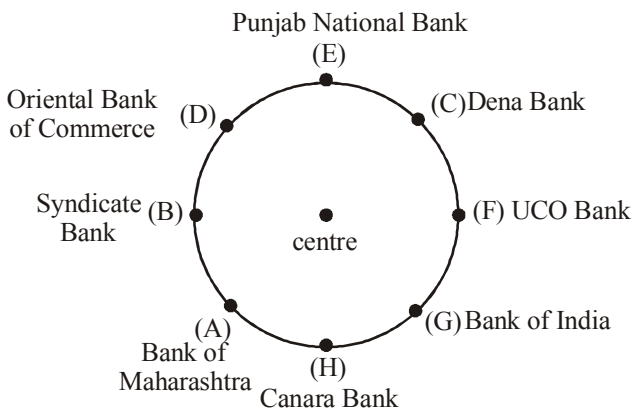
Hence, river is finally flowing to East.

(Qs. 21-25) :



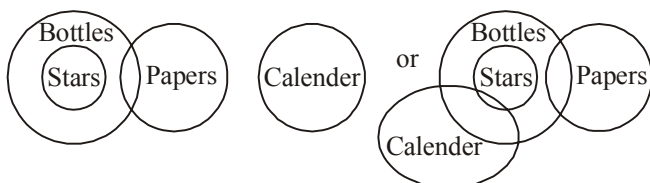
21. (a) T faces D.  
 22. (b) T, A are sitting at the extreme ends of the row.  
 23. (c) Except D-R all others are diagonally opposite to each other.  
 24. (b) Except S all others are sitting at extreme ends of the rows.  
 25. (b) There are two persons (P and S) between T and R.

(Qs. 26-30) :



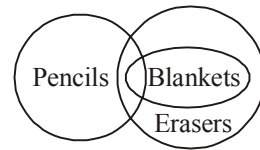
26. (c) H and the representative of Bank of Maharashtra.  
 27. (e) D is the representative of Oriental Bank of Commerce.  
 28. (b) Except A – Canara Bank, all have the wrong bank.  
 29. (d) The representative from Punjab National Bank sits second to the left of B.  
 30. (e) The representatives from Bank of Maharashtra and Syndicate Bank are immediate neighbours of each other.

(Qs. 31-33) :

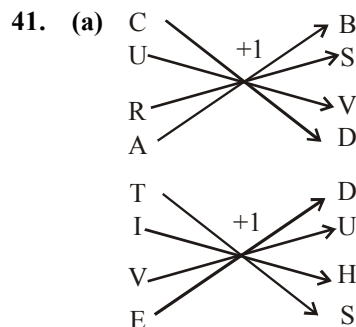


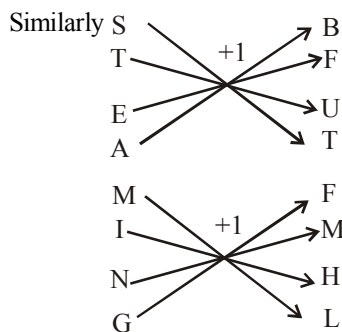
31. (d) I. Atleast some calenders are bottles. (False)  
 II. No calender is star (False)  
 Hence, neither conclusion I nor conclusion II is true.  
 32. (d) I. All stars being papers is a possibility. ( False)  
 II. No calender is a bottle. (False)  
 Hence, neither conclusion I nor II follows.  
 33. (b) I. All calendars being stars is a possibility (False)  
 II. Atleast some bottles are stars (True)  
 Hence, only conclusion II follows.

(Qs. 34 to 35) :



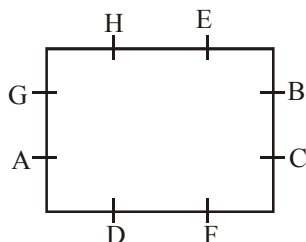
34. (a) I. Atleast some pencils are erasers. (True)  
 II. All erasers being pencils is a possibility. (False)  
 hence, only conclusion I Nor II follows.  
 35. (d) I. No eraser is a pencil. (False)  
 II. All blankets being pencils is a possibility.(False)  
 hence, neither conclusion I nor II follows.  
 36. (d) Both the arguments are weak. Other countries have different conditions. And in India population of youth is increasing so, for the benefits of youth age limit for retirement should not be increased in government jobs.  
 37. (b) Our country seeks to support educationally and economically backward classes for their overall growth and development. Therefore, argument I is not strong, in Indian context.  
 38. (a) First argument is strong as it is based upon an established fact. Second is based upon example, hence it is a weak argument.  
 39. (b) Only II follows because one complaint is enough for a wrong doing. This should be confirmed by catching the officer red-handed and then strict action taken against him.  
 40. (e) The situation can be tackled by periodic cuts in supply and urging people to conserve water. So, both the courses follow.





42. (a) All except X-ray are electronic media.  
 43. (c) 44. (a) 45. (c) 46. (e) 47. (b)  
 48. (d) 49. (c) 50. (b)

(46-50) :



51. (c)  $15 \times CP = 20 \times SP$

$$\Rightarrow \frac{SP}{CP} = \frac{15}{20}$$

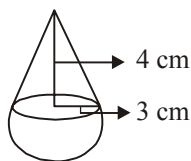
$$\frac{SP}{CP} - 1 = \frac{15}{20} - 1$$

$$\Rightarrow \frac{SP - CP}{CP} = \frac{15 - 20}{20}$$

$$= \text{Loss} = \frac{5}{20}$$

$$\text{Loss percentage} = \frac{5}{20} \times 100 = 25\%$$

52. (a)



Total surface area of toy  
 = area of hemisphere + area of cone  
 $= 2\pi r^2 + \pi r \ell$   
 $= 2 \times \pi \times (3^2) + \pi \times 3 \times 5$   
 $= 18\pi + 15\pi = 33\pi$

$$\left( \because \ell = \sqrt{(3)^2 - (4)^2} \right) = \sqrt{25} = 5 \text{ cm}$$

53. (e) Relative speed =  $(50 - 45) \text{ km/h} = 5 \text{ km/hr}$

$$\Rightarrow 5 \times \frac{5}{18} \text{ m/s} = \frac{25}{18} \text{ m/sec}$$

According to question

$$\frac{25}{18} = \frac{110 + 90}{t}$$

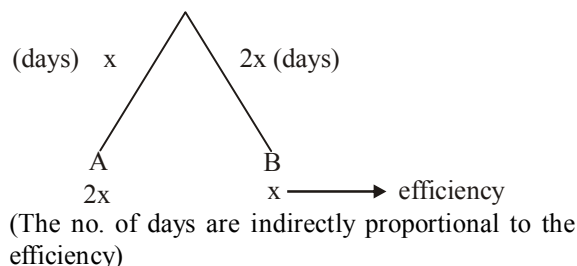
$$\Rightarrow t = \frac{200 \times 18}{25} = 144 \text{ s}$$

54. (e) Speed downstream =  $\frac{25}{5} \text{ km/h} = 5 \text{ km/h}$

$$\text{Speed upstream} = \frac{25}{5} \text{ km/h} = 4 \text{ km/h}$$

$$\text{Velocity of the current} = \frac{1}{2}(5 - 4) \text{ km/h} = 0.5 \text{ km/h}$$

55. (c)



Now Given that,

$$2x = 24$$

$$x = 12 \text{ days.}$$

$$\text{A and B finish the work together} = \frac{12 \times 24}{36} = 8 \text{ days}$$

56. (e) Ratio of capitals of A, B and C  
 $= 15000 : 21000 : 27000$   
 $= 5 : 7 : 9$

Let the total profit be ₹ x.

$$\text{Then B's share} = ₹ \frac{7}{21} x = ₹ \frac{x}{3}$$

$$\text{But } \frac{x}{3} = 1260$$

$$\Rightarrow x = 3780$$

57. (e) Sum of the weight of 25 students  
 $= (25 \times 16) \text{ kg}$   
 Sum of the weight of first 12 students  
 $= (14 \times 12) \text{ kg} = 168 \text{ kg}$   
 Sum of the weight of last 12 students  
 $= (17 \times 12) \text{ kg} = 204 \text{ kg}$   
 $\therefore$  Weight of the thirteenth student  
 $= (400 - 168 - 204) \text{ kg} = 28 \text{ kg}$

58. (a) Difference in rate of interest at 4%

$$= \left( 4 + 4 + 4 + \frac{16 + 16 + 16}{100} + \frac{4 \times 4 \times 4}{(100)^2} \right) - 3 \times 4$$

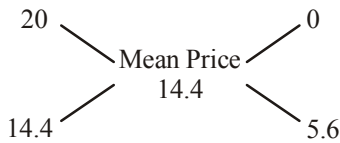
$$= \frac{48}{100} + \frac{64}{(100)^2} = 0.48 + 0.0064 = 0.4864\%$$

$$\text{Difference in amount} = \frac{5000 \times 0.4864}{100 \times 10000} = ₹ 24.32.$$



59. (a) Mean cost price =  $\left(\frac{100}{125} \times 18\right) = ₹14.4$  per litre

By the rule of alligation  
CP of 1 L milk CP of 1 L water



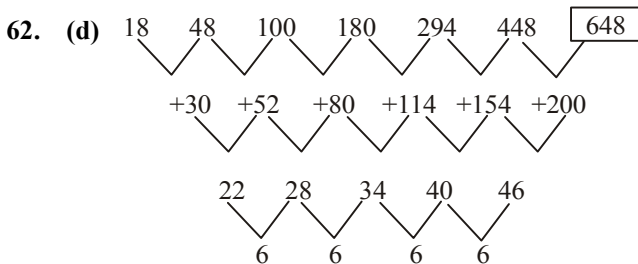
Required rate =  $144 : 56 = 18 : 7$

60. (c) Average speed of entire distance of 400 km

$$= \frac{\text{total distance}}{\text{total time}}$$

$$= \frac{200 + 200}{\frac{200}{40} + \frac{200}{20}} = \frac{400}{5 + 10} = \frac{400}{15} = 26.67 \text{ km/h}$$

61. (b) The pattern is  
 $\times 1 + 1, \times 2 + 2, \times 3 + 3, \times 4 + 4, \times 5 + 5, \dots$   
So, the missing term is  $(208 \times 5) + 5 = 1045$



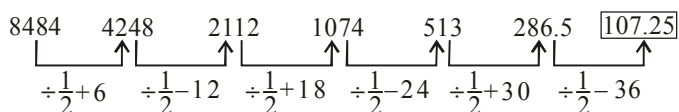
63. (e) The given pattern is  $17^2, 19^2, 23^2, 29^2, 31^2, 37^2, \dots$   
(ie, square of prime numbers)

So, the missing term is  $37^2 = 1369$

64. (d) The given pattern is  $\times 4 - 1, \times 4 - 2, 4 \times - 3, \times 4 - 4, \times 4 - 5, \times 4 - 6, \dots$

So, the missing term is  $(7739 \times 4) - 6 = 30950$

65. (c) The given pattern is



66. (a) Total number of assistants = 15% of 7000

$$= \frac{15}{100} \times 7000 = 1050$$

Number of direct recruits = 40% of 1050

$$\frac{40}{100} \times 1050 = 420$$

Now, number of promotee assistants  
=  $1050 - 420 = 630$

Hence, required difference =  $630 - 420 = 210$

67. (c) Number of clerk I = 19% of 7000

$$= \frac{19}{100} \times 7000 = 1330$$

Number of direct recruits = 90% of 1330

$$= \frac{90 \times 1330}{100} = 1197$$

Now, number of promotees =  $1330 - 1197 = 133$

$$\text{Hence, required percentage} = \frac{133}{1197} \times 100 = \frac{13300}{1200} = 11\%$$

68. (e) Number of supervisors = 17% of 7000

$$= \frac{17}{100} \times 7000 = 1190$$

Type of employees	Number
Steno	$\frac{10}{100} \times \frac{30}{100} \times 7000 = 210$
Assistant	$\frac{15}{100} \times \frac{40}{100} \times 7000 = 420$
Supervisor	$\frac{17}{100} \times \frac{50}{100} \times 7000 = 595$
Clerk I	$\frac{19}{100} \times \frac{90}{100} \times 7000 = 1197$
Clerk II	$\frac{20}{100} \times \frac{3}{100} \times 7000 = 420$
Officer I	$\frac{90}{100} \times \frac{8}{100} \times 7000 = 504$
Officer II	$\frac{11}{100} \times \frac{70}{100} \times 7000 = 539$

Total direct recruitment

$$= 210 + 420 + 595 + 1197 + 420 + 54 + 539 = 3885$$

70. (c) Clerk I has maximum number of direct recruits.

71. (e) Let the expenditure of company A be

$$= 142500 \times \frac{100}{150} = ₹95000$$

72. (b) Let the expenditure of company B in 2011 be ₹100.

$$\text{Then } \frac{(I_1 - 100)}{100} \times 100 = 35$$

$$\Rightarrow I_1 = 100 + 35 = ₹135$$

Now, expenditure in 2012 = ₹9

$$\text{Now, } \frac{(I_2 - 90)}{90} \times 100 = 45$$

$$\Rightarrow 405 - 10I_2 + 900 = 0$$

$$\Rightarrow I_2 = \frac{1305}{10} = ₹130.5$$

$$\text{Hence, required \%} = \frac{130.5 \times 100}{135} = 96\frac{2}{3}\%$$

73. (c) Expenditure of company A = ₹70 lac

Then, income of company A in 2010

$$= \frac{125}{100} \times 70 = ₹87.5 \text{ lac}$$

Expenditure of company A in 2011

$$= 87.5 \times \frac{150}{100} = ₹131.25 \text{ lac}$$

Hence, required total = ₹(87.5 + 131.25) lac  
= ₹218.75 lac

74. (a) Given that,  

$$\frac{\text{Exp. of B in 2009}}{\text{Exp. of B in 2010}} = \frac{5}{7}$$

$$\frac{\text{Income of B in 2009} \times \frac{100}{140}}{\text{Income of B in 2010} \times \frac{100}{130}} = \frac{5}{7}$$

$$\frac{\text{IB2009}}{\text{IB2010}} = \frac{5 \times 140}{7 \times 130} = \frac{10}{13}$$
75. (d) Let the expenditure of company 'A' be ₹a  
 Then, expenditure of company B = ₹(135.5 - a) lac  
 Now,  $\frac{(I_1 - a)}{a} \times 100 = 45$  [company A] ...(i)  
 and  $\frac{[I_2 - (13.5 - a)]}{(13.5 - a)} \times 100 = 50$  [company B] ...(ii)  
 Here, we have three unknowns but two equations.  
 Hence,  $I_1 + I_2$  cannot be determined.
76. (a) Total sales of Ruby  
 $= 200 + 100 + 200 + 200 + 200 = 900$   
 Now, required % =  $\frac{900}{5200} \times 100 = 17.3\%$
77. (d) Avg. annual sales of Emerald =  $\frac{1400}{5} = 2800$   
 $\therefore$  Required % =  $\frac{280 - 200}{200} \times 100 = 40\%$
78. (c) It is clear from the chart.
79. (c) Sales of Topaz in 2008-09  
 $= \frac{200000}{1.25} = 1600000$  tonnes  
 Sales of topaz in 2014 - 2015 =  $200000 \times 1.5$   
 $= 300000$  tonnes  
 Now, required increase =  $300000 - 160000$   
 $= 140000$  tonnes
80. (a) Highest % growth can be measured for Topaz.

**Calculation for Questions (81 to 85) :**

Facilities	No. of Villagers
Have only adequate water supply	$\frac{25}{100} \times 1800 = 450$
Have only proper electric supply	$\frac{15}{100} \times 1800 = 270$
Have only proper education facilities	$\frac{7}{100} \times 1800 = 126$
Have only telecommunication services	$\frac{12}{100} \times 1800 = 216$
Have only health care services	$\frac{16}{100} \times 1800 = 288$
Have water and electric supply	$\frac{6}{100} \times 1800 = 108$

- Have proper water supply, electric supply and health care services  $\frac{8}{100} \times 1800 = 144$
- Have proper electric supply tele-communication and health care services  $\frac{5}{100} \times 1800 = 90$
- Have all the facilities  $\frac{6}{100} \times 1800 = 108$
81. (d) Number of villages with adequate water supply  
 $= 450 + 108 + 144 + 108 = 810$
82. (a) Number of villages with adequate supply of water and electricity  
 $= 108 + 144 + 108 = 360$
83. (d) Number of villages with proper supply of electricity  
 $= 270 + 108 + 144 + 90 + 108 = 720$   
 Number of villages not having proper electric supply  
 $= 1800 - 720 = 1080$
84. (b) Number of villages with only proper education facilities = 126
85. (e) Number of villages with all the facilities = 108
86. (d) Let the number of children be x ... (i)  
 From statement A we get, teacher's age = x  
 From statement B we get, Average age of (x + 1) persons = (x + 2)  
 $\therefore$  Teacher's age = (x + 2) (x + 1) =  $x^2$   
 $= x^2 + 3x + 2 - x^2 = 3x + 2$  ... (ii)  
 From (i) and (ii) also we cannot find the average age of the children.
87. (e) Savings of the man = ₹ 85000 ... (i)  
 From statement A we get  
 Monthly expenditure of the man for the first 4 months  
 From statement B we get  
 $= ₹ (18000 \times 4) = ₹ 72000$  ... (ii)  
 $=$  Monthly expenditure of the man for the next 8 months  
 $= ₹ (21000 \times 8) = ₹ 168000$  ... (iii)  
 From (i), (ii) and (iii), we can find the income and his average monthly income.
88. (a) A + B + C + D + E + F =  $(45000 \times 6) = 270000$  ... (i)  
 From statement A, we get  
 A + F = 88900 ... (ii)  
 From statement B, we get  
 B + C = 95200 ... (iii)  
 From (i), (ii) and (iii) also we cannot find D, because the salary of E is not given.
89. (d) From A  
 Monday + Tuesday + Wednesday =  $34^\circ\text{C} \times 3 = 102^\circ\text{C}$   
 From B  
 Tuesday + Wednesday + Thursday =  $38^\circ\text{C} \times 3 = 114^\circ\text{C}$   
 Here, statement A and statement B together are not sufficient to answer the question.

90. (b) From statement A, we get  
Sum of the first 10 numbers =  $10 \times 20 = 200$  ... (i)  
Statement A is not sufficient to get the required answer.  
From statement B, we get new average  
=  $(18 \times 6) = 108$  ... (ii)  
Statement B alone is sufficient to get the required answer.

91. (e)  $\frac{196}{14} \times \frac{1}{2.5} = 5.6$

92. (a)  $? = \sqrt{441.441} + \sqrt{256.256}$   
=  $\sqrt{441} + \sqrt{256}$   
=  $(21+16) \approx 37$

93. (e)  $68 - 12 - 8 - 1 = 47$

94. (d)  $? = 6 \times \frac{6}{10} \times \frac{6}{100} \times \frac{6}{1000} \times 60 = \frac{77760}{1000000}$   
=  $\frac{7776}{100000} = 0.07776$

95. (e)  $\frac{4.5 \times 3.7 + 4.5 \times 6.3}{1.5 \times 8.4 - 1.5 \times 7.4} = \frac{4.5 \times (3.7 + 6.3)}{1.5 \times (8.4 - 7.4)}$   
=  $\frac{4.5 \times 10}{1.5 \times 1} = 30$

96. (b) I.  $x^2 - 6x = 7$   
or,  $x^2 - 6x - 7 = 0$   
or,  $(x - 7)(x + 1) = 0$   
or,  $x = 7, -1$   
II.  $2y^2 + 13y + 15 = 0$   
or,  $2y^2 + 3y + 10y + 15 = 0$   
or,  $(2y + 3)(y + 5) = 0$  or,  
 $y = -3/2, -5$   
Hence,  $x > y$

97. (a) I.  $3x^2 - 7x + 2 = 0$   
or,  $3x^2 - 6x - x + 2 = 0$   
or,  $(x - 2)(3x - 1) = 0$   
or,  $x = 2, 1/3$   
II.  $2y^2 - 11y + 15 = 0$   
or,  $2y^2 - 6y - 5y + 15 = 0$   
or,  $(2y - 5)(y - 3) = 0$   
or,  $y = 5/2, 3$   
Hence,  $y > x$

98. (d) I.  $10x^2 - 7x + 1 = 0$   
or,  $10x^2 - 5x - 2x + 1 = 0$   
or,  $(2x - 1)(5x - 1) = 0$   
or,  $x = 1/2, 1/5$   
II.  $35y^2 - 12y + 1 = 0$   
or,  $35y^2 - 7y - 5y + 1 = 0$   
or,  $(5y - 1)(7y - 1) = 0$   
or,  $y = 1/5, 1/7$   
Hence,  $x > y$

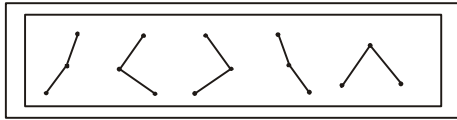
99. (a) I.  $4x^2 = 25$   
or,  $x^2 = 25/4$ , or  $x = \pm 5/2$

II.  $2y^2 - 13y + 21 = 0$   
or,  $2y^2 - 6y - 7y + 21 = 0$   
or,  $(y - 3)(2y - 7) = 0$   
or,  $y = 3, 7/2$   
Hence,  $y > x$

100. (e) I.  $3x^2 + 7x - 6 = 0$   
or,  $3x^2 + 9x - 2x - 6 = 0$   
or,  $(x + 3)(3x - 2) = 0$   
or,  $x = -3, 2/3$   
II.  $6(2y^2 + 1) = 17y$   
or,  $12y^2 + 6 - 17y = 0$   
or,  $12y^2 - 9y - 8y + 6 = 0$   
or,  $(4y - 3)(3y - 2) = 0$   
or,  $y = 3/4, 2/3$   
Hence,  $y \geq x$

101. (e) 102. (b) 103. (c) 104. (d) 105. (c)  
106. (e) 107. (d) 108. (c) 109. (a) 110. (b)  
111. (b) 112. (a) 113. (c) 114. (b) 115. (e)  
116. (c) 117. (b) 118. (d) 119. (e) 120. (a)  
121. (a) 122. (e) 123. (b) 124. (a) 125. (c)  
126. (c) 127. (e) 128. (c) 129. (e) 130. (a)  
131. (c) Delete 'to'. It is superfluous  
132. (a) Comparatively better is superfluous Harish is comparatively good or Harish is better.  
133. (c) Use of back with return is superfluous.  
134. (a) Use of not with hardly/scarcely is superfluous.  
135. (a) Use of back with reimburse/return is superfluous.  
136. (b) Change place to room.  
137. (a) write 'All the members of his family'.  
138. (a) Replace 'According to me' by 'In my opinion'.  
139. (b) Replace 'lectureship' by 'lecturership'.  
140. (d) Use of over after override is superfluous.  
141. (a) 142. (c) 143. (d) 144. (a) 145. (b)  
146. (d) 147. (b) 148. (d) 149. (c) 150. (c)  
151. (b) 152. (b) 153. (d) 154. (c)  
155. (b) Resilience is the ability to provide and maintain an acceptable level of service in the face of faults and challenges to normal operation.  
156. (e) First start by using the 256 mask, which in this case is  $256 - 240 = 16$ . The first subnet is 16; the second subnet is 32. This host must be in the 16 subnet; the broadcast address is 31 and the valid host range is 17-30.  
157. (a)  
158. (d) User Datagram Protocol is used at the Transport layer to provide a connectionless service.  
159. (d) 160. (d) 161. (b) 162. (b) 163. (b)  
164. (d)  
165. (b) Personal Digital Assistant also known as palmtop computers is a mobile device that functions as the personal information manager, mostly access internet through Wi-fi or wireless wide area network.  
166. (d) As  $A + B = B + A$  and  $A + (B + C) = (A + B) + C$  Hence it is commutative and associative.  
167. (d)  
168. (a) Milestones are used to measure the process or status of the project

169. (a) Load factor is the ratio number of records that are currently present and the total number of records that can be present. If the load factor is less, free space will be more. This means probability of collision is less. So the search time will be less.
170. (d)
171. (a) Uploading refers to sending data from local system to remote system such as server or client.
172. (c) 173. (a) 174. (c) 175. (a) 176. (d)
177. (d) All the terms have the same meaning.
178. (b) Switches Operate On Th Second Layer of OSI Model That is Data Link Layer.
179. (d) Five trees are



180. (a) 181. (b) 182. (a) 183. (d) 184. (a)
185. (c) 186. (c)

187. (b) Address Resolution Protocol (ARP) is used to find the hardware address from a known IP address.
188. (c)
189. (c) The WDM is commonly applied on the optical carrier while FDM is applied on the radio carrier. Since wavelength and frequency are tied together through a simple directly inverse relationship, the two terms actually describe the same concept.
190. (a) The rule for changing the Gray code to binary is that first bit remains the same and the next bit is obtained by adding the first LSB of binary to the second LSB of Gray code and so on ... So the answer of the question is 10111.
191. (d) Hub and Switch are used in Star Type Networks.
192. (b)
193. (d) An index register in a computer's CPU is a processor register used for modifying operand addresses during the run of a program, typically for doing vector/array operations.
194. (d) 195. (c) 196. (d) 197. (c) 198. (a)
199. (a) 200. (d)