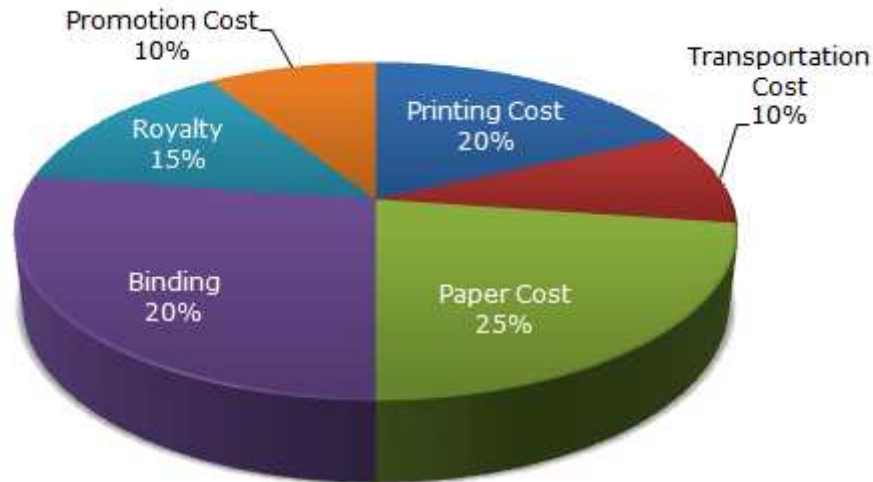


SBI PO Prelim Model Paper - 2



8. If for a certain quantity of books, the publisher has to pay Rs.30,600 as printing cost, then what will be amount of royalty to be paid for these books?
 a) Rs.19,450 b) Rs.21,200 c) Rs.22,950
 d) Rs.26,150 e) None of these
9. What is the central angle of the sector corresponding to the expenditure incurred on royalty?
 a) 15° b) 24° c) 54°
 d) 48° e) None of these
10. The price of the book is marked 20% above the C.P. If the marked price of the book is Rs.180, then what is the cost of the paper used in a single copy of the book?
 a) Rs.36 b) Rs.37.50 c) Rs.42
 d) Rs.44.25 e) None of these
11. If 5500 copies are published and the transportation cost on them amounts to Rs.82500, then what should be the selling price of the book so that the publisher can earn a profit of 25%?
 a) Rs.187.50 b) Rs.191.50 c) Rs.175
 d) Rs.180 e) None of these
12. Royalty on the book is less than the printing cost by:
 a) 5% b) $33\frac{1}{5}\%$ c) 20%
 d) 25% e) None of these
13. A man can row upstream at 8 kmph and downstream at 13 kmph. The speed of the stream is
 a) 2.5 km/hr b) 4.2 km/hr c) 5 km/hr
 d) 10.5 km/hr e) None of these
14. If the sum of the interior angles of a regular polygon measures upto 1440 degrees, how many sides does the polygon have?
 a) 10 sides b) 8 sides c) 12 sides
 d) 9 sides e) None of these

25. The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?
a) 76Kg b) 76.5Kg c) 85Kg
d) Data inadequate e) None of these
26. In Arum's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arum and he thinks that Arum's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are correct in their estimation, what is the average of different probable weights of Arum?
a) 67 kg b) 68 kg c) 69 Kg.
d) Data inadequate e) None of these
27. Product of two co-prime numbers is 117. Their LCM should be
a) 1 b) 117 c) equal to their H.C.F.
d) Cannot be calculated e) None of these
28. A starts a business with Rs.3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's contribution in the capital?
a) Rs.7500 b) Rs.8000 c) Rs.8500
d) Rs.9000 e) None of these
29. In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?
a) 32 b) 48 c) 36
d) 60 e) None of these
30. Two dice are tossed. The probability that the total score is a prime number is:
a) 1/6 b) 5/12 c) 1/2
d) 7/9 e) None of these
31. The sum of the ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
a) 4 years b) 8 years c) 10 years
d) 12 years e) None of these
32. A shopkeeper professes to sell his goods at cost price but uses a weight of 800 gm instead of kilogram weight. Thus, he make a profit of
a) 20% b) 22% c) 25%
d) Data inadequate e) None of these
33. The number of common terms to the two sequences 17, 21, 25 417 and 16, 21, 26 466 is :
a) 19 b) 20 c) 21
d) 84 e) None of these
34. $\sqrt{50} \times \sqrt{98}$ is equal to
a) 63.75 b) 65.95 c) 70
d) 70.25 e) None of these

35. An athlete runs 200 meters race in 24 seconds. His speed is
 a) 20 km/hr b) 24 km/hr c) 28.5km/hr
 d) 30km/hr e) None of these

Reasoning Ability

36. How many such pairs of letters are there in the word TRIBUNAL each of which has as many letters between them in the word as in the English alphabet?
 a) None b) One c) Two
 d) Three e) More than three
37. In a certain code DOWN is written as '5@9#' and NAME is written as '#6%3'. How is MODE written in that code?
 a) %653 b) %@63 c) %5@3
 d) %@53 e) None of these
38. How many meaningful English words can be formed with the letters LGEU using each letter only once in each word?
 a) None b) One c) Two
 d) Three e) More than three
39. If 'R' denotes ' ', 'Q' denotes 'X', 'W' denotes '÷' and 'A' denoted '+', then

$$42 \quad W \quad 7 \quad R \quad 8 \quad A \quad 6 \quad Q \quad 4 = ?$$

 a) 22 b) 168 c) 22
 d) 28 e) None of these
40. In a certain code THRIVES is written as SIUHRDU. How is SOULFUL written in that code?
 a) VPTKKTE b) VPTKETK c) TPVKKTE
 d) TNRKMVG e) None of these
41. The positions of how many digits in the number 59164823 will remain unchanged after the digits are rearranged in descending order within the number?
 a) None b) One c) Two
 d) Three e) More than three
42. Mohan walked 30 metres towards South, took a left turn and walked 15 metres. He then took a right turn and walked 20 metres. He again took a right turn and walked 15 metres. How far is he from the starting point?
 a) 95 metres b) 50 metres c) 70 metres
 d) Can't be determined e) None of these
43. What should come next in the following letter series?
 PQRSTABCDEPQRSTABCDEPQRSTABCDPQ
 a) R b) T c) A
 d) B e) None of these

III. Some mountains are desks.

IV. Some jungles are kites.

- a) Only I and III follow
- b) Only I, II and III follow
- c) Only III and IV follow
- d) Only II, III and IV follow
- e) None of these

49. **Statements:** All stones are hammers.

No hammer is ring.

Some rings are doors.

All doors are windows.

Conclusions:

- I. Some windows are stones.
- II. Some windows are rings.
- III. No window is stone.
- IV. Some rings are stones.

- a) Only I follows
- b) Only II follows
- c) Only III follows
- d) Only either I or III follows
- e) Only either I or III and II follow

50. **Statements:** All pens are clocks.

Some clocks are tyres.

Some tyres are wheels.

Some wheels are buses.

Conclusions:

- I. Some buses are tyres.
- II. Some wheels are clocks.
- III. Some wheels are pens.
- IV. Some buses are clocks.

- a) None follows
- b) Only I follows
- c) Only II follows
- d) Only III follows
- e) Only IV follows

Directions (Q. 51-55) Study the following information carefully and answer the questions given below:

A, B, C, D, E, F, G, H and K are sitting around a circle facing the centre. F is 4th to the right of A who is 3rd to the right of B. K is 4th to the left of B and 3rd to the right of D. C is 3rd to the right of H. E is 2nd to the left of G.

51. Who is to the immediate right of F?

- a) B
- b) G
- c) E
- d) Data inadequate
- e) None of these

52. Who is 3rd to the right of K?

- a) F
- b) E
- c) G
- d) Data inadequate
- e) None of these

53. What is E's position with respect to B?
 a) 2nd to the left
 b) 3rd to the right
 c) 4th to the right
 d) 3rd to the left
 e) 5th to the right
54. Who is 4th to the left of G?
 a) C
 b) A
 c) D
 d) K
 e) Data inadequate
55. In which of the following combinations is the 3rd person sitting between the 1st and the 2nd persons?
 a) GFB
 b) BGH
 c) ADC
 d) KEC
 e) EGF

Directions (Q. 56-60) In the following questions, the symbols !, @, ©, % and * are used with the following meaning as illustrated below:

- 'P © Q' means 'P is not smaller than Q'.
 'P % Q' means 'P is neither smaller than nor equal to Q'.
 'P * Q' means 'P is neither greater than nor equal to Q'.
 'P ! Q' means 'P is not greater than Q'.
 'P @ Q' means 'P is neither greater than nor smaller than Q'.

Now in each of the following questions assuming the given statements to be true, find which of the three conclusions I, II, III and IV given below them is/are definitely true and give your answer accordingly.

56. **Statements:** D ! T, T @ R, R © M, M % K

Conclusions:
 I. R @ D
 II. R % D
 III. K * T
 IV. M ! T

- a) Only either I or II is true
 b) Only III and IV are true
 c) Only either I or II and III are true
 d) Only either I or II and IV are true
 e) Only either I or II and III and IV are true

57. **Statements:** J @ F, F ! N, N % H, H © G

Conclusions:
 I. G * N
 II. N © J
 III. F * J
 IV. J ! G

- a) Only I and II are true
 b) Only I, II and III are true
 c) Only II, III and IV are true
 d) All I, II, III and IV are true
 e) None of these

58. **Statements:** R * K, K % D, D @ V, V ! M

Conclusions: I. R * D
 II. V * R
 III. D @ M
 IV. M % D

- a) None is true
- b) Only III is true
- c) Only IV is true
- d) Only either III or IV is true
- e) None of these

59. **Statements:** B © T, T * R, R % F, F @ K

Conclusions: I. B % R
 II. F * T
 III. R % K
 IV. K & T

- a) None is true
- b) Only I is true
- c) Only II is true
- d) Only III is true
- e) Only IV is true

60. **Statements:** F % N, N © W, W ! Y, Y – T

Conclusions: I. F % W
 II. T % N
 III. N % Y
 IV. T % W

- a) Only I and III are true
- b) Only I and IV are true
- c) Only II and III are true
- d) Only I, II and IV are true
- e) None of these

Directions (Q. 61-65) In making decision about important question, it is desirable to be able to distinguish between ‘strong’ arguments are those which are both important and directly related to the question. ‘Weak’ arguments are those which are of minor importance and also may not be directly related to the question or may be related to a trivial aspect of the question.

Each question below is followed by three arguments numbered (A), (B) and (C). You have to decide which is the arguments is a ‘strong’ arguments and which is a ‘weak’ argument.

61. **Statement** Should there be complete ban on setting up of thermal power plants in India?

Arguments:

- (A) Yes, this is the only way to arrest further addition to environmental pollution.
 - (B) No, there is a huge shortage of electricity in most parts of the country and hence generation of electricity needs to be augmented.
 - (C) No, many developed countries continue to set up thermal power plants in their countries.
- a) None is strong
 - b) Only (A) is strong
 - c) Only (B) is strong
 - d) Only (C) is strong
 - e) Only either (A) or (B) is strong

62. **Statements:** Should road repair work in big cities be carried out only late at night?

Arguments:

- (A) No, this way the work will never get completed.
- (B) No, there will be unnecessary use of electricity.
- (C) Yes, the commuters will face lot of problems due to repair work during the day.
 - a) None is strong
 - b) Only (A) is strong
 - c) Only (C) is strong
 - d) Only (B) and (C) are strong
 - e) Only (A) and (B) are strong

63. **Statements:** Should all the deemed universities be derecognized and attached to any of the central of state universities in India?

Arguments:

- (A) Yes many of these deemed universities do not conform to the required standards of a full-fledged university and hence the level of education is compromised.
- (B) No, these deemed universities have been able to introduce innovative courses suitable to the requirement of various industries as they are free from strict government controls.
- (C) Yes, many such universities are basically money spinning activities and education takes a backseat in these institutions.
 - a) Only (A) and (B) are strong
 - b) Only (B) and (C) are strong
 - c) Only (A) and (C) are strong
 - d) All (A), (B) and (C) are strong
 - e) None of these

64. **Statement:** Should there be a cap on drawing groundwater for irrigation purposes in India?

Arguments:

- (A) No, irrigation is of prime importance for food production in India and it is heavily dependent on groundwater in many parts of the country.
- (B) Yes, water tables have gone down to alarmingly low levels in some parts of the country where irrigation is primarily dependent on groundwater, which may lead to serious environmental consequences.
- (C) Yes, India just cannot afford to draw groundwater any further as the international agencies have cautioned India against it.
 - a) Only (A) and (B) are strong
 - b) Only (B) and (C) are strong
 - c) Only (A) and (C) are strong
 - d) All (A), (B) and (C) are strong
 - e) None of these

65. **Statements:** Should there be a restriction on the construction of high rise building in big cities in India?

Arguments:

- (A) No, big cities in India do not have adequate open land plots to accommodate the growing population.
- (B) Yes, only the builders and developers benefit from the construction of high rise buildings.
- (C) Yes, the Government should first provide adequate infrastructural facilities to existing building before allowing the construction of new high rise buildings.

- a) Only (B) is strong
- b) Only (C) is strong
- c) Only (A) and (C) are strong
- d) Only (A) is strong
- e) None of these

Directions (Q. 66-70) In each question below is given a statement followed by three assumptions (A), (B) and (C). An assumption is something supposed or taken for granted. You have to consider the statements and the following assumptions and decide which of the assumptions is implicit in the statement.

66. **Statement:** The Government has decided to auction construction of highways to private entities in several blocks across the country on build-operate-transfer basis.

Which of the following assumption(s) is/are implicit in the above statement?

- (A) An adequate number of private entities may not respond to the Government's auction notification.
- (B) Many private entities in the country are capable of constructing highways within reasonable time.
- (C) The Government's proposal of build-operate-transfer may financially benefit the private entities.
 - a) Only (A) and (B) are implicit
 - b) Only (B) and (C) are implicit
 - c) Only (B) is implicit
 - d) Only (A) and (C) are implicit
 - e) None of these

67. **Statement:** Government has urged all the citizens to use electronic media for carrying out their daily activities, whenever possible, instead of using paper as the manufacture of paper requires the cutting down of a large number of trees causing severe damage to the ecosystem.

Which of the following assumption(s) is/are implicit in the above statement?

- (A) Most people may be capable of using electronic media to carry out various routines.
- (B) Most people may have access to electronic media for carrying out their daily routine activities.
- (C) People at large may reject the Government's appeal and continue using paper as before.
 - a) Only (A) is implicit
 - b) Only (B) is implicit
 - c) Only (A) and (B) are implicit
 - d) Only (C) is implicit
 - e) None of these

68. **Statement:** The apex body controlling universities in the country has decided to revise the syllabus of all the technical courses to make them focused towards the present needs of the industry thereby making the technical graduates more employable than they are at present.

Which of the following assumption(s) is/are implicit in the above statement?

- (A) Technical colleges affiliated to different universities may not welcome the apex body's decision and may continue with the same syllabus as at present.
- (B) The industry may welcome the decision of the apex body and scale up their hiring from these colleges.
- (C) The Government may not allow the apex body to implement its decision in all the colleges as it may lead to chaos.
 - a) None is implicit

- b) Only (A) is implicit
- c) Only (B) is implicit
- d) Only (C) is implicit
- e) Only (A) and (B) are implicit

69. **Statement:** Police authority cordoned off the entire locality for the entire day and stopped all vehicular movement for the visit of a top functionary of the government in view of the threat perception and advised all the residents in the area to limit their movement outside their dwellings.

Which of the following assumption(s) is/are implicit in the above statement?

- (A) Police personnel may not be able to control the vehicular movement in the locality and may seek help from the armed forces.
- (B) People living in the locality may move out of their houses for the day to avoid inconvenience.
- (C) The Government functionary may request the police authority to lift the ban on movement residents of the locality outside their dwellings.
 - a) None is implicit
 - b) Only (A) is implicit
 - c) Only (B) is implicit
 - d) Only (C) is implicit
 - e) None of these

70. **Statement:** The airlines have requested all their bonafide passengers to check the status of flight operations before leaving their homes as heavy fog is causing immense problems to normal flight operations.

Which of the following assumption(s) is/are implicit in the above statement?

- (A) The majority of the air passengers may check the flight status before starting their journey to the airport.
- (B) The Government may take serious objection to the notice issued by the airline company.
- (C) Majority of the passengers may cancel their tickets and postpone their journey till the situation becomes normal.
 - a) None is implicit
 - b) Only (A) is implicit
 - c) Only (B) is implicit
 - d) Only (C) is implicit
 - e) None of these

English Language

Directions (Q. 71-80) Read the following passage carefully and answer the questions given below it. Certain words have been printed in bold to help you to locate them while answering some of the questions.

Once a thief named Kalu had planned to loot the king's treasury. At midnight, he went to the palace and began to drill a hole in the side wall of the treasury. The king, who was awake in his bedroom just above the treasury, came out to investigate the whirring sound. He was dressed in a simple nightgown and the thief could not recognize him. He asked Kalu who he was and what he was doing. The latter said, "Sir, I am a thief and intend to loot this treasury. I presume that you are also a thief and have come with

the same intention. No matter, let us both go inside and we shall share the loot equally. "Both entered the treasury and divided all the money and the jewels equally between them.

Inside a locker they found three big diamond pieces. As the thief was puzzled as to how to divide the three pieces into two portions, the king suggested. "We have taken away everything else. Let us leave one diamond piece for the poor king and share the rest equally". Kalu agreed and when he took his leave, the king asked for his name and address. As Kalu had taken a vow of telling only the truth, he had the correct information.

The king took away his share of the loot and hid it in his room. Next morning he asked his Prime Minister to inspect the treasury as he had heard some strange sounds during the **previous** night. The Prime Minister saw to his horror that all the valuables were missing and only a single diamond was left, perhaps **inadvertently**, by the thief. He put the diamond in his own shirt pocket as its loss could be **ascribed** to the thief and nobody would suspect the Prime Minister. The Prime Minister went back to the king. The king particularly enquired. "Do you mean that the thief has completely **denuded** the treasury of its valuables and not a single item has been left?" The Prime Minister confirmed it. The king asked the chief of police to bring in Kalu. When Kalu came he was unable to recognize the king as his **accomplice** of the previous night. The king asked him, "Are you the thief who has stolen everything from my treasury leaving nothing back?" Kalu confirmed it but said, "Sir, I did leave one diamond back in the locker as advised by an accomplice of mine and it should still be there." The Prime Minister interrupted saying, "Your Majesty, this thief is lying. There is nothing left in the locker." The king asked the police chief to search the pockets of the Prime Minister, from where the missing diamond was recovered. The king told his courtiers, "Here is a Prime Minister, who is a liar and a thief and here is a thief who is a truthful gentleman."

71. The king came out in the middle of the night in order to ...
 - a) Help Kalu to break into the palace treasury
 - b) Share the loot equally between Kalu and himself
 - c) Find out the source of and reason for the sound he had heard
 - d) Catch the thief who had come to steal his valuables
 - e) None of these

72. Kalu could not recognize the king because ...
 - a) The king was wearing clothes like those of an ordinary person
 - b) The king's clothes were covered by a simple nightgown
 - c) Kalu had never seen the king before
 - d) Kalu had not seen the king descending from his bedroom
 - e) None of these

73. Which of the following made the king suspect the Prime Minister? The Prime Minister's statement that ...
 - a) Except for one piece of diamond all other valuables were stolen
 - b) All the valuables without any exception were stolen from the treasury
 - c) The thief was lying when he said he had left one diamond back in the locker
 - d) The search for the diamond did not yield any favourable result
 - e) None of these

74. Which of the following horrified the Prime Minister?
 - a) The valuables missing from the King's treasury
 - b) A piece of diamond left in the locker

- c) Certain strange sounds heard by the Prime Minister
 d) The fact that the king suspected him of stealth
 e) None of these
75. Choose the word which is most nearly the Same in meaning as the word given in bold as used in the passage.
Accomplice
 a) C-traveller b) Collaborator c) Controller
 d) Coordinator e) None of these
76. Choose the word which is most nearly the Same in meaning as the word given in bold as used in the passage.
Ascribed
 a) Attributed b) Donated c) Attached
 d) Withdrew e) None of these
77. Choose the word which is most nearly the Same in meaning as the word given in bold as used in the passage.
Denuded
 a) Uncovered b) Stripped c) Destroyed
 d) Eiscarded e) None of these
78. Choose the word which is most Opposite in meaning of the word given in bold as used in the passage.
Inadvertently
 a) Knowingly b) Sensibly c) Indifferently
 d) Unwittingly e) None of these
79. Choose the word which is most Opposite in meaning of the word given in bold as used in the passage.
Previous
 a) New b) Preceding c) Novel
 d) Subsequent e) None of these
80. They decided to leave the diamond inside the locker because
 A. They wanted some part of the wealth to be left for the Prime Minister.
 B. It was difficult for them to carry the 3rd piece of diamond.
 C. The total number of diamonds being odd, they had to leave out onepiece to facilitate equal distribution.
 a) None b) All the three c) Only A
 d) Only B e) Only C

Directions (Q. 81-85): Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

- A. The reasons for their happiness was that they had come to the Vithal temple of Pandharpur to see their beloved Lord.
 B. There were rich, poor men, women, children, blind, handicapped among them.
 C. They were all in a very happy state of mind, as was apparent from their glowing faces.
 D. They would worship and seek the Divine blessings while in Pandharpur.

92. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
- a) Limitasion b) Dependable c) Miniature
d) Qualitative e) All Correct
93. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
- a) Lucrative b) Ancestral c) Performanse
d) Incidentally e) All Correct
94. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
- a) Futility b) Separasion c) Embarrassment
d) Positively e) All Correct
95. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
- a) Tournament b) Enhancement c) Amazingly
d) Continuation e) All Correct

Directions (Q. 96-100): Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

- A. Besides, they get a lot of exposure to novel things through media.
B. Therefore, their mental development did not show any extraordinary signs.
C. Children of the present generation appear to be smarter than their earlier counterparts.
D. Thus, the environment of present days has brought out these changes.
E. This is probably because there are lots of opportunities for their indirect learning.
F. Children of yester years did not have these facilities.

96. Which of the following will be the Third sentence after rearrangement?
a) A b) B c) C
d) D
97. Which of the following will be the First sentence after rearrangement?
a) A b) B c) C
d) D
98. Which of the following will be the Sixth sentence after rearrangement?
a) A b) B c) C
d) D
99. Which of the following will be the Second sentence after rearrangement?
a) A b) B c) C
d) E
100. Which of the following will be the Fifth sentence after rearrangement?

a) A
d) D

b) B

c) C

Answers:

1. Clearly, the numbers which have 1 or 9 in the unit's digit, have squares that end in the digit 1. Such numbers from 1 to 70 are 1, 9, 11, 19, 21, 29, 31, 39, 41, 49, 51, 59, 61, 69
Number of such number = 14
So, required percentage = $[\frac{14}{70} \times 100]\% = 20\%$

$$2. \quad 935421 \times 625 = 935421 \times 5^4 = 935421 \times \left[\frac{10}{2}\right]^4 \\ = \frac{935421 \times 10^4}{2^4} = \frac{9354210000}{16} \\ = 584638125$$

3. Let rate = R% and time = R years

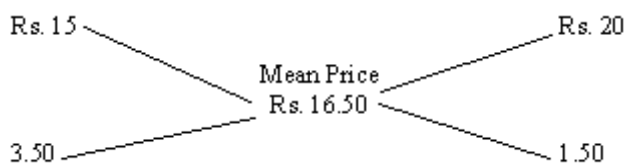
$$\text{Then, } \left[\frac{1200 \times R \times R}{100}\right] = 432 \\ 12R^2 = 432 \\ R^2 = 36 \\ R = 6$$

4. Work done by the inlet in 1 hour = $\left[\frac{1}{8} - \frac{1}{12}\right] = \frac{1}{24}$
Work done by the inlet in 1 minute = $\left[\frac{1}{24} \times \frac{1}{60}\right] = \frac{1}{1440}$
Volume of $\frac{1}{1440}$ part = 6 litres. Therefore, Volume of whole = $[1440 \times 6]$
= 8640 litres

5. By the rule of allegation:

Cost of 1 kg pulses of 1st kind

Cost of 1 kg pulses of 2nd kind



So, required rate = 3.50 : 1.50 = 7 : 3

6. At 3 o'clock, the minute hand is 15 min. spaces apart from the hour hand. To be coincident, it must gain 15 min. spaces
55 min. are gained in 60 min.
15 min. are gained in $[\frac{60}{55} \times 15]$ min. = $16\frac{4}{11}$ min.
So, the hands are coincident at $16\frac{4}{11}$ min. past 3

7. 28 May 2006 = (2005 years + period from 1.1.2006 to 28.5.2006)
 Odd days in 1600 years = 0
 Odd days in 400 years = 0
 5 years = (4 ordinary years + 1 leap year) = $(4 \times 1 + 1 \times 2) = 6$ odd days

Jan.		Feb.		March		April		May		
(31	+	28	+	31	+	30	+	28)	=	148 days

So, 148 days = (21 weeks + 1 day) = 1 odd day
 Total number of odd days = $(0 + 0 + 6 + 1) = 7 = 0$ odd day.
 Given day is Sunday

8. Let the amount of royalty to be paid for these books be Rs. r .
 Then, $20 : 15 = 30600 : r = \text{Rs. } \frac{30600 \times 15}{20} = \text{Rs. } 22,950$

9. Central angle corresponding to royalty = 15% of 360°
 $= \left(\frac{15}{100} \times 360 \right)$
 $= 54^\circ$

10. Clearly, marked price of the book = 120% of C.P.
 Also, cost of paper = 25% of C.P.
 Let the cost of paper for a single book be Rs. n .

Then, $120 : 25 = 180 : n \quad n = \text{Rs. } \frac{25 \times 180}{120} = \text{Rs. } 37.50$

11. For the publisher to earn a profit of 25%, S.P. = 125% of C.P.
 Also transportation cost = 10% of C.P.
 Let the S.P. of 5500 books be Rs. x .

Then, $10 : 125 = 82500 : x \quad x = \text{Rs. } \frac{125 \times 82500}{10} = \text{Rs. } 1031250$

\therefore S.P. of one book = $\text{Rs. } \frac{1031250}{5500} = \text{Rs. } 187.50$

12. Printing cost of book = 20% of C.P.

Royalty on book = 15% of C.P.

Difference = 20% of C.P. - 15% of C.P. = 5% of C.P.

\therefore percentage difference = $\left[\frac{\text{difference}}{\text{printing cost}} \times 100 \right] \%$
 $= \left[\frac{5\% \text{ of C.P.}}{\text{printing cost}} \times 100 \right] \% = 25\%$

13. Speed of stream = $\frac{1}{2} (13 - 8) \text{ kmph}$

$$= \frac{1}{2} \times 5$$

$$= \frac{5}{2}$$

$$= 2.5$$

14. We know that the sum of an exterior angle and an interior angle of a polygon = 180°

We also know that sum of all the exterior angles of a polygon = 360°

The question states that the sum of all interior angles of the given polygon = 1440°

Therefore, sum of all the interior and exterior angles of the polygon = $1440 + 360 = 1800$

If there are 'n' sides to this polygon, then the sum of all the exterior and interior angles = $180 \times n$
 $= 10$

15. $\tan x + \sec x = 2 \cos x$
 $\sin x + 1 = 2 \cos^2 x, \cos x \neq 0$

$$\sin x + 1 = 2(1 - \sin^2 x)$$

$$2 \sin^2 x + \sin x - 1 = 0$$

This is quadratic equation in $\sin x$. Solve for $\sin x$

$$\sin x = 1 \text{ or } \sin x = \frac{1}{2}$$

$$\sin x = 1$$

$\cos x = 0$, which is not possible [$\cos x \neq 0$ from above]

$$\therefore \sin x = \frac{1}{2}$$

$$x = \frac{\pi}{6} \text{ or } x = \frac{5\pi}{6}, \text{ in the interval } [0, 2\pi]$$

$$x = \frac{\pi}{6} \text{ or } x = \frac{5\pi}{6}$$

$$\begin{aligned} 16. \text{ C's 1 day's work} &= \frac{1}{3} \left[\frac{1}{6} + \frac{1}{8} \right] = \frac{1}{3} \cdot \frac{7}{24} = \frac{7}{72} \\ \text{A's wages : B's wages : C's wages} &= \frac{1}{6} : \frac{1}{8} : \frac{7}{24} = 4 : 3 : 7 \\ \text{C's share (for 3 days)} &= \text{Rs.} \left[3 \times \frac{7}{72} \times 3200 \right] = \text{Rs.} 1000 \end{aligned}$$

$$\begin{aligned} 17. \text{ Total distance travelled} &= \left[(50 \times 2 \times \frac{1}{2}) + [70 \times 1 \times \frac{1}{2}] \right] \\ &= (125 + 105) \text{ miles} \\ &= 230 \text{ miles} \end{aligned}$$

18. Let the required number be x .

$$\begin{aligned} \text{Then, } \frac{x}{\sqrt{0.25}} &= 25 \\ &= \frac{x}{0.5} = 25 \\ &= x = 25 \times 0.5 \\ &= 12.5 \end{aligned}$$

19. Let d be the common difference of the A.P.

$$\begin{aligned} \text{Then } a_3 \cdot a_7 \cdot a_{11} &= (22 - 4d) \cdot 22 \cdot (22 + 4d) \\ &= 88(121 - 4d^2) \end{aligned}$$

Obviously, R.H.S. is greatest for $d = 0$

20. Let the labeled price be Rs. x

$$88\% \text{ of } 80\% \text{ of } x = 704$$

$$\begin{aligned} x &= \left[704 \times 100 \times \frac{100}{88} \times 80 \right] \\ &= 1000 \end{aligned}$$

21. Let the present ages of the person be x years.

$$\begin{aligned} \text{Then } &= 3(x - 3) - 3(x - 3) \\ x &= (3x + 9) - (3x - 9) \\ x &= 18 \end{aligned}$$

22. Here $S = \{TTT, TTH, THT, HTT, THH, HTH, HHT, HHH\}$

Let $E =$ event of getting at most two heads.

Then $E = \{TTT, TTH, THT, HTT, THH, HTH, HHT\}$

$$P(E) = \frac{n(E)}{n(S)} = \frac{7}{8}$$

23. The word 'LEADER' contains 6 letters, namely 1L, 2E, 1A, 1D and 1R.

$$\text{Required number of ways} = \frac{6!}{(1)(2)(1)(1)(1)} = 360$$

24. Required number

$$\begin{aligned} &= \text{HCF of } (91 \ 43), (183 \ 91) \text{ and } (183 \ 43) \\ &= \text{HCF of } 48, 92 \text{ and } 140 \\ &= 4 \end{aligned}$$

25. Total weight increased = $(8 \times 2.5) \text{ kg} = 20 \text{ kg}$.
Weight of new person = $(65 + 20) \text{ kg} = 85 \text{ kg}$.

26. Let Arun's weight be $X \text{ kg}$.

According to Arun, $65 < X < 72$

According to Arun's brother, $60 < X < 70$.

According to Arun's mother, $X \leq 68$

The values satisfying all the above conditions are 66, 67 and 68.

$$\text{Required Average} = \left[\frac{66 + 67 + 68}{3} \right] = \left[\frac{201}{3} \right] = 67 \text{ kg.}$$

27. HCF of co-prime numbers is 1.

$$\begin{aligned} \text{So, LCM} &= \frac{117}{1} \\ &= 117 \end{aligned}$$

28. Let B's capital be Rs.x. Then, $3500 \times \frac{12}{7x} = \frac{2}{3}$

$$14x = 126000$$

$$x = 9000$$

29. There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.

Let us mark these positions as under:

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

Now, 3 vowels can be placed at any of the three places out of 6, marked 1, 3, 5

$$\text{Number of ways of arranging the vowels} = {}^3P_3 = 3! = 6$$

Also, the 3 consonants can be arranged at the remaining 3 positions.

$$\text{Number of ways of these arrangements} = {}^3P_3 = 3! = 6$$

$$\text{Total number of ways} = (6 \times 6) = 36$$

30. Clearly, $n(S) = (6 \times 6) = 36$

Let E = Event that the sum is a prime number.

Then = $\{(1, 1), (1, 2), (1, 4), (1, 6), (2, 1), (2, 3), (2, 5), (3, 2), (3, 4), (4, 1), (4, 3), (5, 2), (5, 6), (6, 1), (6, 5)\}$

$$n(E) = 15$$

$$P(E) = \frac{n(E)}{n(S)} = \frac{15}{36} = \frac{5}{12}$$

31. Let the ages of the children be $x, (x + 3), (x + 6), (x + 9)$ and $(x + 12)$ years.

$$\text{Then, } x + (x + 3) + (x + 6) + (x + 9) + (x + 12) = 50$$

$$5x = 20$$

$$x = 4$$

Age of the youngest child = 4 years

32. Therefore, profit $= \left[\frac{200}{800} \times 100 \right] \%$
 $= 25\%$

33. The two sequences are 17, 21, 25, 29, 33, 37, 41 417
 16, 21, 26, 31, 36, 41 466
 The common terms are 21, 41, 61, 81 381, 401
 So, number of terms (which are common) = 20

34. $\sqrt{50} \times \sqrt{98} = \sqrt{50} \times \sqrt{98}$
 $= \sqrt{4900}$
 $= 70$

35. Speed $= \frac{200}{24}$ m/sec
 $= \frac{25}{3}$ m/sec
 $= \left(\frac{25}{3} \times \frac{18}{5} \right)$ km./hr.
 $= 30$ km./hr.

36. Option E
 RU, LN, NR, LR

20	18	9	2	21	14	1	12
T	R	I	B	U	N	A	L

37. Option D

D	O	W	N	N	A	M	E
5	@	9	#	#	6	%	3
So,	M	O	D	E			
	%	@	5	3			

38. Option C
 Meaningful words – GLUE, LUGE

39. Option C
 $42W7R8A6Q4 = ?$
 $? = 42 \div 7 \quad 8 + 6 \times 4$
 $= 6 \quad 8 + 24$
 $= 30 \quad 8 = 22$

40. Option A

41. Option C

Number		5	9	1	6	4	8	2	3
In decreasing order	9	8	6	5	4	3	2	1	

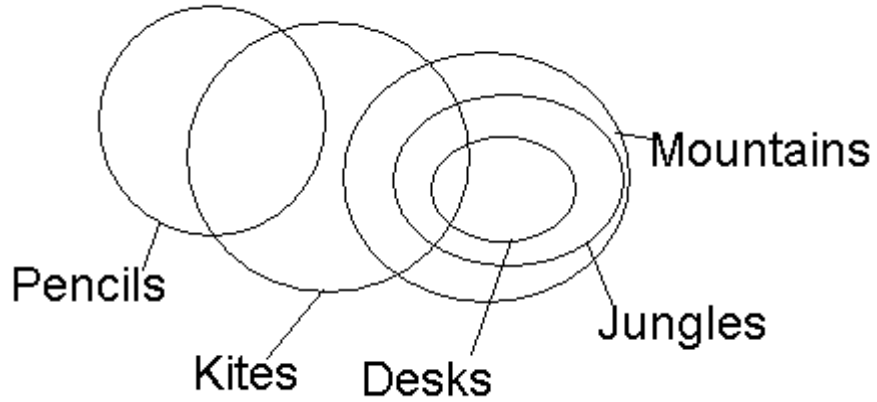
42. Option B

43. Option A

PQRST	ABCDE
PQRS	ABCDE
PQRS	ABCD

- III. False
- IV. False

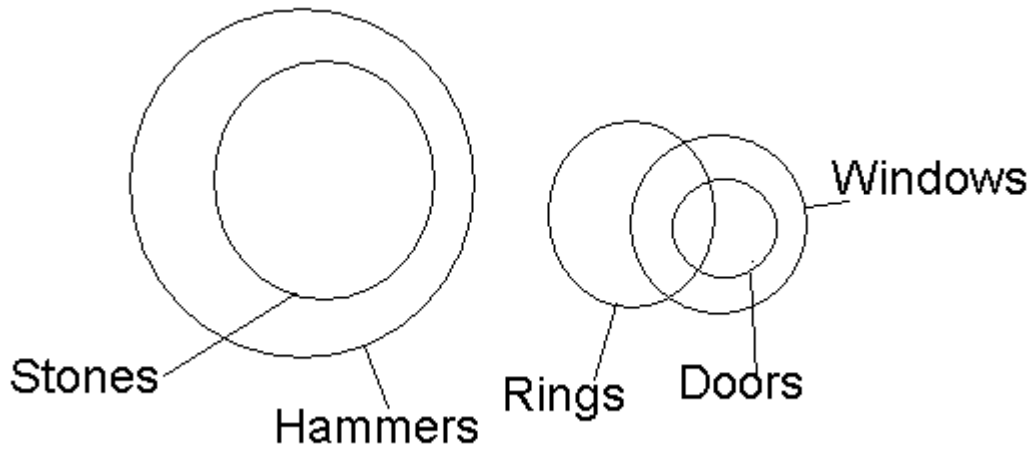
48. Option C



- Conclusoins: I. False
 II. False
 III. True
 IV. True

So, only III and IV follow

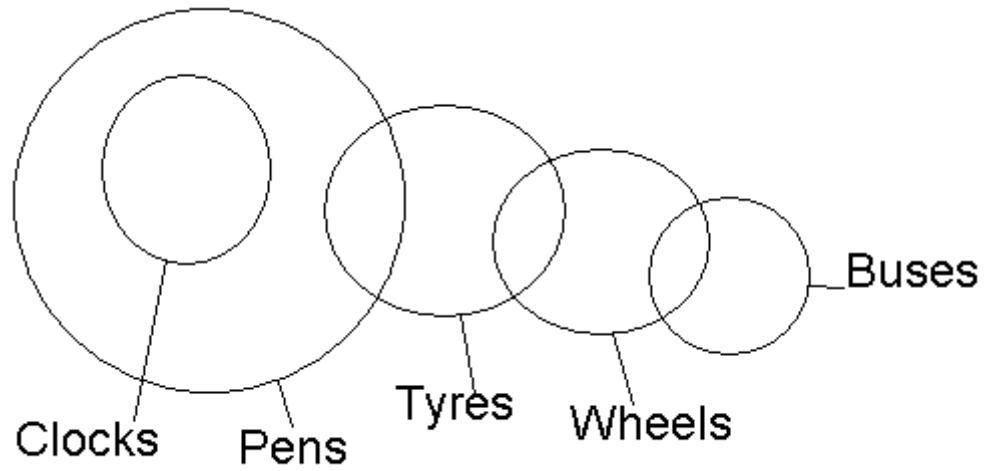
49. Option E



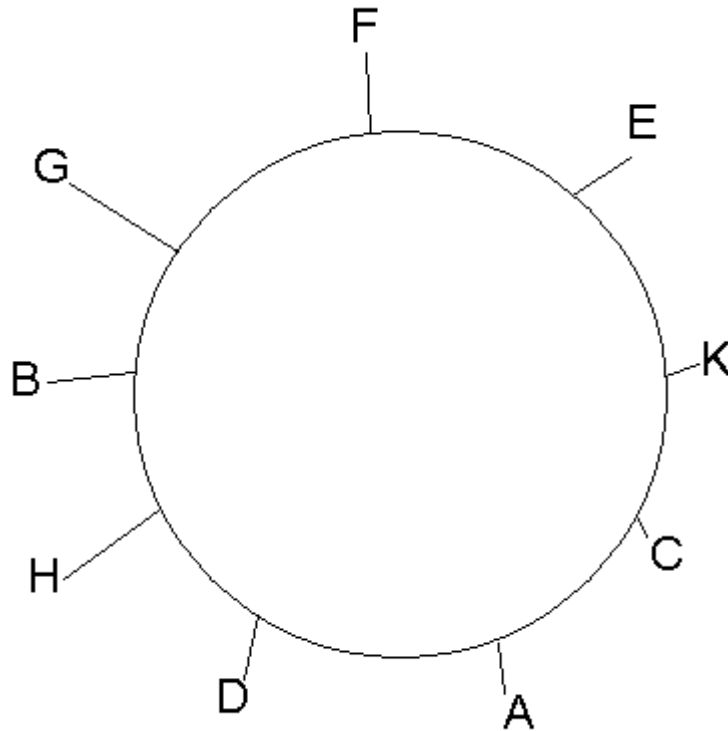
- Conclusoins: I. False
 II. True
 III. True
 IV. False

So, either I or II and II follow

50. Option A



- Conclusions:
- I. False
 - II. False
 - III. False
 - IV. True
- None follows



- 51. Option B
- 52. Option C
- 53. Option D
- 54. Option A
- 55. Option E

- 56. Option E
- 57. Option A
- 58. Option D
- 59. Option D
- 60. Option B
- 61. Option C
- 62. Option C
- 63. Option C
- 64. Option A
- 65. Option D
- 66. Option C

Only assumption (B) is implicit because government has decided means private entities are capable of constructing highways within reasonable time.

- 67. Option C

Only assumption (A) and (B) is implicit because if government has urged all the citizens and as a result people will try to follow to save ecosystem.

- 68. Option C
- 69. Option A
- 70. Option B
- 71. Option C
- 72. Option B
- 73. Option B
- 74. Option A
- 75. Option B
- 76. Option A
- 77. Option B
- 78. Option A
- 79. Option D
- 80. Option E
- 81. Option C
- 82. Option D
- 83. Option B
- 84. Option D
- 85. Option A
- 86. Option A
- 87. Option A
- 88. Option C
- 89. Option C
- 90. Option A
- 91. Option D
- 92. Option A
- 93. Option C
- 94. Option B
- 95. Option E
- 96. Option A
- 97. Option C
- 98. Option D
- 99. Option D

100. Option B