

**DMRC CUSTOMER RELATIONS
ASSISTANT EXAM****REASONING**

1. The positions of how many letters in the word BRAKES remains unchanged when they are arranged in alphabetical order?
(1) One
(2) Three
(3) Two
(4) None of these
 2. In a certain code if BAD is written as YZW and SAID is written as HZRW, then LIFE will be written as
(1) ORUV (2) OSUV
(3) OGVU (4) ORVW
 3. What will come in the place of question mark (?) in the following series?
NP OQ QS TV ?
(1) XX (2) XZ
(3) WZ (4) WX
 4. In a certain code PAGES is written as RDIHU and WRITE is written as YUKWG. How will OTHER be written in the same code?
(1) RVKGU (2) QWJHT
(3) RWJHV (4) PWIHS
 5. Find the odd man out
(1) Plough (2) Weave
(3) Cultivate (4) Reap
 6. If 18514 stands for AHEAD, then 31385 stands for
(1) CATCH (2) CASSET
(3) CACHE (4) CONQUER
 7. If DARE is coded as 1083 and FATE is coded as 2093, then FARE is coded as
(1) 2083 (2) 8320
(3) 2038 (4) 3802
- Directions (8-9) :** In the following questions select the choice which completes the series.
8. J L N P R T ? :
(1) S (2) U
(3) V (4) W
 9. A D I P ? :
(1) R (2) T
(3) U (4) Y
 10. Two boys Anil and Shyam walk in opposite directions for three kilometres. Anil is walking towards East. After 3 km each, both turn right and again walk 3 km each. Both calculate and turn to face each other. In which directions is Shyam looking ?
(1) South
(2) South East
(3) East
(4) North West
 11. In question number 10, which directions is Anil looking ?
(1) North
(2) North West
(3) West
(4) South East
 12. Pick the right statement after going through question number 10 :
(1) Shyam is farther from the starting point than Anil
(2) Anil is farther from the starting point than Shyam
(3) Both are equi-distant from the starting point
(4) None of these
- Directions (13-15) :** Two words are given in the following questions with a blank in between. Select a word from the choices given which is most relevant to the two given words.
13. NICE () PUNISH :
(1) good (3) fine
(2) clean (4) time
 14. NEW () TALE :
(1) fresh (2) renew
(3) old (4) novel
 15. CUT () OPENING :
(1) sharp (2) slit
(3) gate (4) inaugurate
 16. In the following Question pick the choice that establishes the logical relationship :
AD : BE :: CF : ?
(1) DG (2) EC
(3) FG (4) GD
- Directions :** Which of the following is not matched correctly ?
17. (1) YSAKJLMERUT = YSAKJLMERUT
(2) 9876367121932 = 9876367121932
(3) XZA93546875EAZ = XZA93546875EAZ
(4) TYASXE675432908 = TYASXE674532908
 18. The major obstacle to India's progress is the exploding population, and infrastructure development **cannot** keep pace with it. Pick the conclusion that cannot be drawn from this Information :
(1) India's progress is obstructed
(2) Development of roads is not enough
(3) Population growth is too fast
(4) More money must be spend for Scientific research
 19. In a class examination the average marks in mathematics by Girls was 80% and by Boys 60%. It is logical to conclude :
(1) All girls are more intelligent than boys
(2) All boys are weaker at maths than girls
(3) Some girls are better than boys in maths
(4) None of these
 20. In the following series how many consonants come before 3 ?
3 A 3 F 4 T 7 U 3 S 3 T T 3 J J
3 4 5 3 D X 3 X Z 3 T 3 H

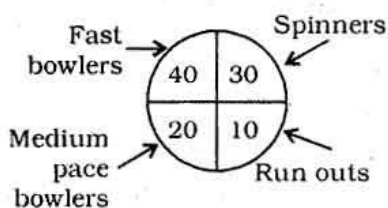
- (1) 7 (2) 6
(3) 5
(4) None of these

21. If 'A' is the father of 'B' and 'B' is the mother of 'C' and 'C' is the daughter of 'D', then what is the relation between 'A' and 'D' :

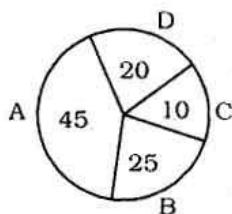
- (1) Son-in-Law
(2) Father-in-Law
(3) Sister-in-Law
(4) Brother-in-Law

Directions (22-24) : The following are the statistics of some matches of a cricket team bowlers and the wickets taken. A, B, C and D are the fast bowlers of the team.

% of wickets taken



% of wickets among fast bowlers



22. If the number of wickets taken by spinners is 15, the total number of wickets taken by bowlers is :

- (1) 50 (2) 45
(3) 40 (4) 35

23. What % of the total wickets did 'A' take ?

- (1) 9 (2) 17
(3) 18 (4) 10

24. What is ratio of the wickets taken by C to the wickets that fell through run-outs ?

- (1) 2 : 5 (2) 1 : 5
(3) 3 : 10 (4) 4 : 5

Directions (25-27) : The following numerals are written in alphabetical/symbol form. Select the choice that represents the given number the best.

25. 1 7 2 5 5 5 2 :
(1) N P N R R R S
(2) A B C D E F F
(3) N N P Q Q R S
(4) A B C D D D C

26. 9 9 5 5 1 2 3 :
(1) X Y Z Z A B C
(2) A A B C D E F
(3) A B C D D E F
(4) X X Y Y A B C

27. 5 5 3 4 5 5 1 1 :
(1) ↑↑→↓↑↑ΔΔ
(2) ↑↑→↓↑↑Δ▽
(3) ←↓→↓→↑↓↑
(4) Δ▽→↓↑↓▽↑↑

Directions (28-30) : Read the following statements carefully and then answer the questions given under it.

From a batch of six batsmen - Sahwag, Gambhir, Dravid, Dhoni, Youvraj and Tendulkar and four bowlers - Praveen, R.P. Singh, Kapildev, Ishant, a team of six players is to be selected for participating in International Cricket League. Some of the criteria are -

- Gambhir and Dhoni have to be together
- Dravid cannot go with R.P. Singh
- Tendulkar cannot go with Sahwag or Dhoni
- Praveen and Kapildev have to be together
- Praveen cannot go with Ishant
- Sahwag and Youvraj have to be together

Unless otherwise mentioned, the above criteria are applicable to all the following questions.

28. If four of the members including Youvraj have to be batsmen and one of the bowler has to be Kapildev, the team consists of :

- Sahwag, Gambhir, Dhoni, Youvraj, Kapildev, Ishant
- Gambhir, Dhoni, Youvraj, Tendulkar, Praveen, Kapildev
- Sahwag, Dhoni, Youvraj, Tendulkar, Praveen, Kapildev
- Sahwag, Gambhir, Dhoni, Youvraj, Praveen, Kapildev

29. If at least three members have to be bowlers and Dravid agrees to team with R.P. Singh but R.P. Singh refuses to team with Sahwag, the team consists of :

- Gambhir, Dhoni, Youvraj, Praveen, R.P. Singh, Ishant
- Gambhir, Dravid, Dhoni, Praveen, Kapildev, Ishant
- Praveen, Ishant, Kapildev, Sahwag, Dravid, Youvraj
- Praveen, R.P. Singh, Kapildev, Gambhir, Dravid, Dhoni

30. If three members including Dravid have to be batsmen and Ishant agrees to team with Praveen while Youvraj refuses to do so, the other members of the team are :

- Gambhir, Dhoni, R.P. Singh
- Gambhir, Dhoni, Kapildev
- Youvraj, Tendulkar, Ishant
- Sahwag, Youvraj, R.P. Singh

GENERAL ENGLISH

Directions (31 - 40) : Read the passage below and answer the questions by choosing the best option:

There was always something inexplicably (31) about neighbourhoods of this sort. You (32) the same people everyday, in shops and in markets, at the bus stops or in the hair-cutting (33). In this (34), it was not much (35) from any other city neighbourhoods, perhaps. But the coziness came from the (36) that these people - the ones you saw everyday, were not going to leave. The neighbourhood (37) remain the same, (38) so, over the years. Such localities in the city were rare these days. Builders and promoters pounced at every opportunity to (39) old houses and erect towering multi-storied buildings in (40) places

- (1) distracting (2) frightening (3) absorbing (4) comforting
- (1) meet (2) will meet (3) have met (4) met
- (1) boutique (2) salon (3) room (4) aperture
- (1) senses (2) business (3) style (4) respect

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35. (1) diffident (2) different
(3) diverse (4) changed

36. (1) assurance (2) insurance
(3) reassurances
(4) remembrance

37. (1) must (2) should
(3) can (4) would

38. (1) inevitably (2) unvaryingly
(3) invariably (4) inaudibly

39. (1) create (2) end
(3) demolish (4) extinguish

40. (1) there (2) this
(3) it's (4) their

Directions (41 - 42) : Which of the phrases (1), (2), (3), (4) given below each sentence should replace the phrase printed in **bold** to make the sentence grammatically correct.

41. **Besides criticism** of some supervisors the chairman still commands respect from the employees.

- (1) Without criticism of
(2) Despite criticism from
(3) Except the criticism from
(4) Unless criticism of

42. The bridge in **connection with** the two cities will remain closed for security reasons.

- (1) connecting
(2) being connected from
(3) in connection to
(4) connects between

Directions (43 - 45) : Choose the correct passive voice of the sentence given in the question.

43. Is the noise not disturbing the old man?

- (1) Is the old man not being disturbed by the noise?
(2) Whether the old man is not being disturbed by the noise?
(3) Do the old man not being disturbed by the noise?
(4) Let the old man not be disturbed by the noise.

44. Could they not have helped the needy?

- (1) Why can the needy be not helped by them?
(2) Could the needy not have been helped by them?
(3) Could the needy have not been helped by them?
(4) Why could the needy not be helped by them?

45. Ought we to make any false claims?

- (1) Any false claims ought to be made by us
(2) Ought any false claims to be made by us?
(3) Should any false claims to be made by us?
(4) Could any false claims to be made by us?

Directions (46 - 47) : Change the following sentences into reported speech.

46. I said, " will you stop that noise?" "No, said the boy":

- (1) I asked the boy if he would stop that noise and he replied that he would not (stop that noise).
(2) I told the boy if he would stop that noise and he said no
(3) I said to the boy if he will stop that noise and he said that he would not.
(4) I asked the boy whether he would stop this noise and he replied in negative.

47. She said, " how clever I am!":

- (1) She told that she was very clever.
(2) She exclaimed that she was very clever.
(3) She applauded herself by saying that she was very clever.
(4) She said that how clever was she?

48. Complete the phrase : 'Burn- ing the candle at both -

- (1) sides (2) ends
(3) tips (4) flames

49. Choose the word pair that has the relationship that is most similar to that of the given pair:

vexation: disappointment

- (1) peace : calm
(2) felicity : fear
(3) brave: coward
(4) kind: sympathy

50. The phrase 'a close call' means:

- (1) to be happily married
(2) to be hardhearted
(3) to live nearby
(4) to have a narrow escape

51. Choose the correct option for the sentence: 'Many conjuring tricks depend upon optical

- (1) delusions
(2) allusions
(3) illusions
(4) resolution

52. What does 'to put one's best foot forward' mean?

- (1) to give oneself up
(2) to disclose a secret
(3) to march in a straight line
(4) to make a good first impression

Directions (53 - 56) : Read the following passage carefully. Listed below are four options beneath each question. Tick at the option you find to be in accordance with the content of the passage.

Vibrio parahaemolyticus is a bacterial organism that has been isolated from sea water, shellfish, finfish, plankton, and salt springs. It has been a major cause of food poisoning in Japan, compelling the Japanese to do several studies on it. They have confirmed the presence of *Vibrio parahaemolyticus* in the North and Central Pacific, with the highest abundance in **inshore** waters, particularly in or near large harbours.

A man named Nishio studied the relationship between the chloride content of sea water and the seasonal distribution of *Vibrio parahaemolyticus* and concluded that while the isolation of the organism was independent of the sodium chloride content, the distribution of the bacteria in sea water was dependent on the water temperature. In fact, it has been isolated in high frequencies during summer, from June to September, but was not isolated with the same frequency in winter.

Within four or five days after eating contaminated foods, a person will begin to experience diarrhoea, the most common symptom: this will very often be accompanied by stomach cramps, nausea and vomiting. Headache and fever, with or without chills, may also be experienced.

53. Which of the following locations would be most likely to have a high concentration of *Vibrio parahaemolyticus*:

- (1) A bay
- (2) A sea
- (3) In the middle of the ocean
- (4) Sediment

54. The word **inshore** is closest in meaning to:

- (1) Near the coast
- (2) Deep
- (3) Cold
- (4) Shallow waters

55. The safest time for eating sea food in the North Pacific is probably:

- (1) August
- (2) July
- (3) November
- (4) September

56. The incubation period for *Vibrio parahaemolyticus* is:

- (1) 2 to 3 days
- (2) 3 to 4 hours
- (3) 4 to 5 days
- (4) Several months

Directions (57 – 58) : Read the sentence and choose the antonyms of the word printed in **bold** among the alternative words or phrases as (1), (2), (3) and (4)

57. Ram is showing signs of **senility**.

- (1) Virility
- (2) Laziness
- (3) Maturity
- (4) Exhaustion

58. The superintendent looked very **grumpy**.

- (1) Surly
- (2) Pleasant
- (3) Efficient
- (4) Honest

Directions (59 – 60) : Against each key word are given four suggested meanings. Choose the word or phrase which is opposite in meaning to the key word.

59. **LURID:**

- (1) Murky
- (2) Dismal
- (3) Ignorant
- (4) Mild

60. **NIGGARDLY:**

- (1) Miserly
- (2) Generous
- (3) Local
- (4) Stingy

GENERAL AWARENESS

61. Viswanathan Anand won the championship 2012 by defeating :

- (1) Veselin Topalov
- (2) Vladimir Kramnik
- (3) Boris Gelfand
- (4) Alexander Khalifman

62. Who is the recipient of Dada Saheb Phalke Award 2011 ?

- (1) K. Balachander
- (2) V.K. Murthy
- (3) D. Ramanaidu
- (4) Soumitra Chatterjee

63. Indian player Deepika Kumari who claimed her maiden World Cup in Antalya recently, belongs to which game:

- (1) Squash
- (2) Archery
- (3) Athletics
- (4) Billiards & Snooker

64. What is the "Motto" of Olympics 2012 ?

- (1) One World, One Dream
- (2) Welcome Home
- (3) Inspire a Generation
- (4) The celebration of the century

65. Identify the incorrect match with respect to IPL 2012;

- | Award | Player/Team |
|-----------------------|-----------------|
| (1) Man of the Series | Sunil Naraine |
| (2) Most Runs | Chris Gayle |
| (3) Most Wickets | Morne Morkel |
| (4) Fair Play Award | Kings XI Punjab |

66. Who is the President of World Bank ?

- (1) Robert Zoellick
- (2) Donald Kaberuka
- (3) Jim Yong Kim
- (4) Dr Margaret Chan

67. When both Houses of the Parliament are not in session and if government feels the need for immediate action, President can promulgate ordinances which have the same force and effect as laws passed by Parliament and their continuance is subject to parliamentary approval. Ordinances remain valid for no more than

..... from the date the Parliament is convened unless approved by it earlier:

- (1) 6 weeks
- (2) 6 months
- (3) 60 days
- (4) 90 days

68. Select the wrong statement among the followings:

- (1) There is no specific provision of salary/pension for the Vice President, per se
- (2) The Vice-President must be qualified for election as a member of the Rajya Sabha
- (3) The Vice-President holds office for five years
- (4) All disputes arising in connection with the election of the Vice-President are petitioned to the Election Commission of India which inquires into the matter and gives final decision

69. Kankesethurai harbour, for which India is providing financial assistance also, is located in:

- (1) Myanmar
- (2) Bangladesh
- (3) Sri Lanka
- (4) Indonesia

70. A coin placed at the bottom of a container appears to rise as the container is slowly filled with water. This is due to :

- (1) Refraction of Light
- (2) Reflection of Light
- (3) Deflection of Light
- (4) Polarisation of Light

71. Large Hadron Collider (LHC) lies in a tunnel 27 kilometres in circumference, as deep as 175 metres:

- (1) Beneath the France – Switzerland border
- (2) Beneath the Germany – Switzerland Border
- (3) Beneath the Italy – Switzerland Border
- (4) Beneath the Austria – Switzerland border

72. The refractive indices of Kerosene, turpentine and water are 1.44, 1.47 and 1.33 respectively. Light will have maximum speed in:

- (1) Kerosene
(2) Turpentine
(3) Water
(4) Speed remains same for all
- 73.** One diopire of power of a lens:
(1) Whose focal length is 10 metres
(2) Whose focal length is 100 metres
(3) Whose focal length is 1 metre
(4) Whose focal length is 0.01 metre
- 74.** Who is credited with the discovery of Electron?
(1) E. Goldstein
(2) J.J. Thompson
(3) James Chadwick
(4) Rutherford
- 75.** The Earth is spherical in shape except for some flattening on some portions. This flattening is at the:
(1) Equator
(2) Tropics
(3) $66\frac{1}{2}^\circ$ North and South
(4) Poles
- 76.** The distance between 90°E longitude and 91°E longitude at the poles is:
(1) Zero kilometres
(2) 5 kilometres
(3) 50 kilometres
(4) Same as it is at the equator
- 77.** The upward thrust experienced by a body floating in water is equal to:
(1) Volume of the body
(2) Vertical height of body below water
(3) Weight of water displaced by the body
(4) Depth of water at the point the body floats
- 78.** The unit of acceleration is:
(1) Distance per second
(2) Seconds per distance
(3) Distance per second per second
(4) Distance per second per second squared
- 79.** A current flowing through a conductor is :
(1) Directly proportional to the potential difference
(2) Directly proportional to the resistance
(3) Inversely proportional to the voltage
(4) None of these
- 80.** The alloy containing copper, tin and zinc in the ratio of 87:10:3 is called:
(1) Bronze (2) Brass
(3) Solder (4) Gun metal
- 81.** Petroleum is converted into a variety of products through the process of:
(1) Frictional distillation
(2) Fractional distillation
(3) Additive separation
(4) Diluted distillation
- 82.** Chronologically arrange the visits of following pilgrims historical personalities to India:
A. Thomas Roe
B. Fa Hien
C. Huen Tsang
(1) BCA (2) BAC
(3) CAB (4) ABC
- 83.** A writ, issued to keep the exercise of powers by judicial and quasi judicial tribunals within the limit of jurisdiction assigned to them by law and to restrain them from acting in excess of their authority, is called a writ of:
(1) Mandamus
(2) Quo-Warranto
(3) Prohibition
(4) Habeas Corpus
- 84.** The characteristic smell of onion bulbs is due to :
(1) Bad odour of soil, where grown
(2) Sulphur compounds
(3) Sugar
(4) Reserve carbohydrates
- 85.** The Speaker of Lok Sabha while a resolution for his removal is under consideration:
(1) Shall have right to speak in and to take part in the proceedings of the House but shall have no right to vote
(2) Shall have no right to speak in and take part in the proceedings of the House and also shall not preside the House
(3) Shall not preside the House but shall have right to speak and take part in the proceedings of the House and shall also have right to vote except in case of equality of votes
(4) Shall preside the House but shall not have right to speak or take part in proceedings of the house and shall cast his vote only in case of equality of votes
- 86.** Which one of the following fundamental rights was recently included as per the 93rd amendment of the Constitution ?
(1) A Right to constitutional remedies
(2) Right to free and compulsory education for all children in the 6 to 14 age group
(3) Right to equality
(4) Right to freedom of religion
- 87.** The Hindu community was divided into how many varnas (castes) based on the duties expected to be performed by each ?
(1) Four (2) Three
(3) Six (4) Two
- 88.** Kelvin is used to measure :
(1) Work or energy
(2) Frequency
(3) Temperature
(4) Inductance
- 89.** Which of the following gases are given out during photosynthesis ?
(1) Oxygen
(2) Carbon dioxide
(3) Nitrogen
(4) Hydrogen
- 90.** What is the script of Ashoka's inscriptions ?
(1) Dev Nagri
(2) Brahmi
(3) Gurumukhi
(4) Hieroglyphics

NUMERICAL ABILITY

91. In a class X of 30 students 24 passed in first class; in another class Y of 35 students, 28 passed in first class. In which class was the percentage of students getting first class more?

- (1) Class X has more percentage of students getting first class
- (2) Class Y has more percentage of students getting first class
- (3) Both classes have equal percentage of students getting first class
- (4) None of these

92. In a stock clearance sale, Bata Shoe Company announces 20% discount. If the discounted price of a pair of shoes is ₹1520, find its original price:

- (1) ₹1800
- (2) ₹1900
- (3) ₹1950
- (4) ₹2000

93. Ajay can do a piece of work in 25 days and Sanjay can finish it in 20 days. They work together for 5 days and then Ajay goes away. In how many days will Sanjay finish the remaining work?

- (1) 11 days
- (2) 12 days
- (3) 14 days
- (4) None of these

94. Puneeta borrowed from Reena certain sum for two years at simple interest. Puneeta lent this sum to Venu at the same rate for two years compound interest. At the end of two years she received ₹110 as compound interest but paid ₹100 as simple interest. Find the sum and rate of interest :

- (1) ₹250, rate 10% per annum
- (2) ₹250, rate 20% per annum
- (3) ₹250, rate 25% per annum
- (4) None of these

95. 2000 soldiers in a fort had enough food for 20 days. But some soldiers were transferred to another fort and the food lasted for 25 days. How many soldiers were transferred?

- (1) 400
- (2) 450
- (3) 525
- (4) 550

96. The HCF and LCM of two numbers are 13 and 1989 respectively. If one of the numbers is 117, determine the other:

- (1) 121
- (2) 131
- (3) 221
- (4) 231

97. Sumit drove at the speed of 45 km/hr from home to a resort. Returning over the same route, he got stuck in traffic and took an hour longer. Also he could drive only at the speed of 40 km/hr. How many kilometres did he drive each way?

- (1) 250 km
- (2) 360 km
- (3) 375 km
- (4) None of these

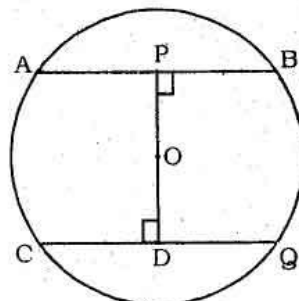
98. The area of a rectangular field is 15 times the sum of its length and breadth. If the length of that field is 40 metres, what is the breadth of that field?

- (1) 24 metre
- (2) 25 metre
- (3) 28 metre
- (4) 32 metre

99. The average of 8 numbers is 14. The average of 6 of these numbers is 16. What is the average of the remaining two numbers?

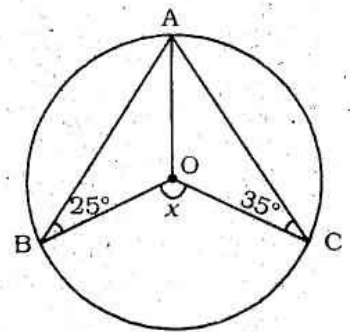
- (1) 12
- (2) 6
- (3) 8
- (4) 10

100. In the given figure AB and CD are two parallel chords of a circle with centre O and radius 5cm. Also AB = 8 cm and CD = 6cm. If OP ⊥ AB and OQ ⊥ CD, determine the length of PQ:



- (1) 7cm
- (2) 10cm
- (3) 8cm
- (4) None of these

101. Find the value of x :



- (1) 160°
- (2) 40°
- (3) 80°
- (4) 120°

102. The construction of ΔPQR in which $QR = 5.4$ cm and $\angle Q = 60^\circ$ is not possible when $(PQ + QR)$ is:

- (1) 6 cm
- (2) 6.5 cm
- (3) 5 cm
- (4) 7 cm

103. A well of inner diameter 14m is dug to a depth of 15m. Earth taken out of it has been evenly spread all around it to a width of 7m to form an embankment. Find the height of embankment so formed:

- (1) 7 m
- (2) 5 m
- (3) 14 m
- (4) None of these

104. The mean mark obtained by seven students in a group is 226. If the marks obtained by six of them are 340, 180, 260, 56, 275 and 307 respectively, find the marks obtained by the seventh student:

- (1) 164
- (2) 226
- (3) 340
- (4) cannot be determined

105. Which of the following is the correct expansion of $(x + y + z)^2$?

- (1) $xy^2 + yz^2 + zx^2 + 2xy + 2yz + 2zx$
- (2) $xyz^2 + x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$
- (3) $x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$
- (4) None of these

106. The decimal expansion of rational number $\frac{37}{2^2 \times 5}$ will terminate after

- (1) One decimal place
(2) Two decimal places
(3) Three decimal places
(4) Four decimal places
- 107.** If one zero of $3x^2 + 8x + k = 0$ is the reciprocal of the other, then $k = ?$
(1) 3 (2) -3
(3) $\frac{1}{3}$ (4) $-\frac{1}{3}$
- 108.** The mode of a frequency distribution can be found graphically from :
(1) A frequency curve
(2) A frequency polygon
(3) A histogram
(4) An ogive
- 109.** One card is drawn at random from a well-shuffled pack of 52 cards. What is the probability that, the card is either a red card or a king ?
(1) $\frac{1}{13}$ (2) $\frac{7}{13}$
(3) $\frac{10}{13}$
(4) None of these
- 110.** How many cubes of 3cm edge can be cut of a cube of 18cm edge ?
(1) 63 (2) 432
(3) 216
(4) None of these
- 111.** How much does a watch gain per day if its hands coincide every 64 minutes ?
(1) 37 minutes
(2) $32\frac{8}{11}$ minutes
(3) 31 minutes
(4) None of these
- 112.** The difference between the length and breadth of rectangle is 23m. If its perimeter is 206m, then its area is:
(1) 2520 m^2 (2) 2480 m^2
(3) 2420 m^2
(4) None of these
- 113.** Salaries of Akash, Babloo and Chintu are in the ratio of 2:3:5. If their salaries were increased by 15%, 10% and 20% respectively, what will be the new ratio of their salaries?
(1) 3:3:10 (2) 23:33:60
(3) 20:22:40
(4) None of these

- 114.** The cost 21 pencils and 9 clippers is Rs. 819. The cost price of 7 pencils and 3 clippers is:
(1) Rs. 204 (2) Rs. 409
(3) Rs. 273 (4) Rs. 208
- 115.** 20 women can complete a piece of work in 7 days. If 8 more women are put on the job, in how many days will they complete the work ?
(1) $4\frac{1}{2}$ days (2) 5 days
(3) $5\frac{1}{2}$ days (4) 6 days
- 116.** The radius of a circle is so increased that its circumference increases by 5%. The area of the circle then increases by
(1) 12.5% (2) 10.5%
(3) 10.25% (4) 9.25%
- 117.** When three coins are tossed together, the probability that all coins have the same face is
(1) $\frac{1}{6}$ (2) $\frac{1}{4}$
(3) $\frac{1}{3}$ (4) $\frac{1}{2}$
- 118.** Rita, Ram and Rashmi are employed to do a piece of work for Rs. 625. Rita and Ram together are supposed to do $\frac{17}{23}$ of the work. What should Rashmi be paid ?
(1) Rs. 161.04
(2) Rs. 163.04
(3) Rs. 162.04
(4) None of these
- 119.** A rational number between $\frac{1}{2}$ and $\frac{3}{5}$ is
(1) $\frac{4}{5}$ (2) $\frac{6}{7}$
(3) $\frac{11}{20}$ (4) $\frac{19}{20}$
- 120.** When 50 is subtracted from 50% of a number, result is 50. The number is
(1) 150 (2) 225
(3) 325 (4) 200

ANSWERS

1. (3)	2. (1)	3. (2)	4. (2)
5. (2)	6. (3)	7. (1)	8. (3)
9. (4)	10. (2)	11. (2)	12. (3)
13. (2)	14. (4)	15. (1)	16. (1)
17. (4)	18. (4)	19. (3)	20. (2)
21. (2)	22. (1)	23. (1)	24. (1)
25. (4)	26. (4)	27. (1)	28. (4)
29. (4)	30. (2)	31. (4)	32. (1)
33. (2)	34. (4)	35. (2)	36. (4)
37. (4)	38. (3)	39. (3)	40. (4)
41. (2)	42. (1)	43. (1)	44. (3)
45. (2)	46. (1)	47. (3)	48. (2)
49. (4)	50. (4)	51. (3)	52. (4)
53. (1)	54. (1)	55. (3)	56. (3)
57. (3)	58. (2)	59. (4)	60. (2)
61. (3)	62. (4)	63. (2)	64. (3)
65. (4)	66. (3)	67. (1)	68. (4)
69. (3)	70. (1)	71. (1)	72. (3)
73. (3)	74. (2)	75. (4)	76. (1)
77. (3)	78. (3)	79. (1)	80. (1)
81. (2)	82. (1)	83. (3)	84. (2)
85. (3)	86. (2)	87. (1)	88. (3)
89. (1)	90. (2)	91. (3)	92. (2)
93. (1)	94. (2)	95. (1)	96. (3)
97. (2)	98. (1)	99. (3)	100. (1)
101. (4)	102. (3)	103. (2)	104. (1)
105. (3)	106. (2)	107. (1)	108. (3)
109. (2)	110. (3)	111. (2)	112. (1)
113. (2)	114. (3)	115. (2)	116. (3)
117. (2)	118. (2)	119. (3)	120. (4)

EXPLANATIONS

1. (3) B R A K E S
A B E K R S
2. (1) B A D → Y Z W
S A I D → H Z R W
- Pairs of opposite letters
- Therefore,
L I F E → O R U V

3. (2)

N $\xrightarrow{+1}$ O $\xrightarrow{+2}$ Q $\xrightarrow{+3}$ T $\xrightarrow{+4}$ X
P $\xrightarrow{+1}$ Q $\xrightarrow{+2}$ S $\xrightarrow{+3}$ V $\xrightarrow{+4}$ Z

4. (2)

P A G E S $\xrightarrow{+2}$ R D I H U
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$

W R I T E $\xrightarrow{+2}$ Y U K W G
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$

Therefore,

O T H E R $\xrightarrow{+2}$ Q W J H T
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$
 $\xrightarrow{+3}$
 $\xrightarrow{+2}$

5. (2) Except Weave all others are related to agriculture.

6. (3) 1 8 5 1 4
 $\downarrow \downarrow \downarrow \downarrow \downarrow$
A H E A D

Therefore,

3 1 3 8 5
 $\downarrow \downarrow \downarrow \downarrow \downarrow$
C A C H E

7. (1) D A R E
 $\downarrow \downarrow \downarrow \downarrow$
1 0 8 3

F A T E
 $\downarrow \downarrow \downarrow \downarrow$
2 0 9 3

Therefore,

F A R E
 $\downarrow \downarrow \downarrow \downarrow$
2 0 8 3

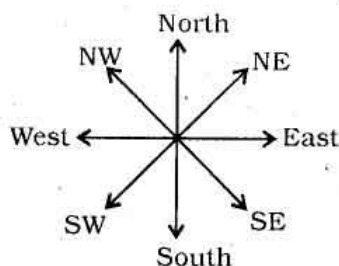
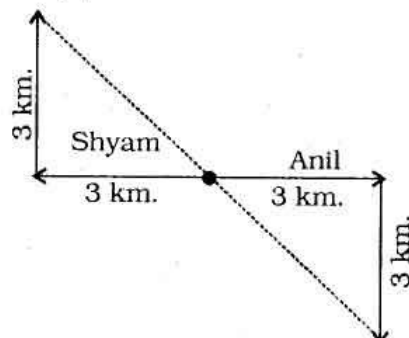
8. (3)

J $\xrightarrow{+2}$ L $\xrightarrow{+2}$ N $\xrightarrow{+2}$ P $\xrightarrow{+2}$ R $\xrightarrow{+2}$ T $\xrightarrow{+2}$ V

9. (4)

A $\xrightarrow{+3}$ D $\xrightarrow{+5}$ I $\xrightarrow{+7}$ P $\xrightarrow{+9}$ V

10. (2)



Shyam is looking towards South-East.

11. (2) Anil is looking towards North-West.

12. (3) Both are equi-distant from the starting point.
Required distance

$$= \sqrt{(3)^2 + (3)^2} \\ = \sqrt{9+9} = \sqrt{18} \text{ km}$$

13. (2) 'Nice' means pleasant, kind, fine etc.

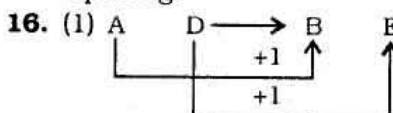
'Punish' means to make suffer, imposing fine.

Therefore, FINE is related to both the words.

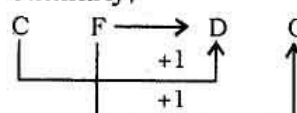
14. (4) New novel is released recently.

'Tale' is also related to novel.

15. (1) Sharp is related to Cut and Opening.



Similarly,



17. (4) TYASXE 67 54 32 908

TYASXE 67 45 32 908

18. (4) The statement does not imply that more money must be spent for scientific research.

19. (3) The use of term 'all' in the Options (1) and (2) make these two Conclusions invalid. It can be said that some girls are better than boys in Maths.

20. (2) Consonant 3

3 A 3 F 4 T 7 U 3 S3 T T3

J J3 45 3D X3 X Z3

T3 H

21. (2) D is father of C and husband of B. B is the daughter of A. Therefore, A is father-in-law of D.

22. (1) Spinners took 30% of wickets
30% \Rightarrow 15

$$\therefore 100\% \Rightarrow \frac{15}{30} \times 100 = 50$$

23. (1) Fast bowlers took 20 wickets
45% of 20

$$= \frac{45}{100} \times 20 = 9 \text{ wickets}$$

24. (1) C took

$$\frac{10}{100} \times 20 = 2 \text{ wickets}$$

Wickets fell through run outs

$$= \frac{10}{2} = 5$$

Required Ratio = 2 : 5

25. (4) 1 7 2 5 5 5 2
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$

A B C D D D C

26. (4) 9 9 5 5 1 2 3
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$

X X Y Y A B C

27. (1) 5 5 3 4 5 5 1 1
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$

$\uparrow \uparrow \rightarrow \downarrow \uparrow \uparrow \Delta \Delta$

28. (4) Kapildev is one of the bowlers. Therefore, Praveen must be the other bowler because Praveen and Kapildev have to be together.

Sahwag and Yuvraj have to be together.

Gambhir and Dhoni should be other two batsmen.

29. (4) There are three bowlers in the team. Therefore, Praveen and Kapildev must be the two bowlers other than RP Singh. The three batsmen : Gambhir, Dhoni and Dravid
30. (2) Three batsmen : Dravid, Gambhir and Dhoni
Three bowlers : Praveen, Kapildev and Ishant
48. (2) Idiom **burn the candle at both ends** means : to become very tired by trying to do too many things and going to bed late and getting up early.
49. (4) The word **vexation (Noun)** means : the state of feeling upset or annoyed.
The word **Disappointment (Noun)** means : It is a cause and effects relationship sadness as something has not happened as expected.
50. (4) **A close call** means : a situation in which you only just manage to avoid an accident etc; to have a narrow escape.
52. (4) Idiom **put your best foot forward** means : to make a great effort to do something especially if it is difficult or you are feeling tired.
57. (3) The word **Senility (Noun)** means : behaving in a confused or strange way and unable to remember things, because you are old.
The word **Maturity (Noun)** means : the quality of thinking and behaving in a sensible, adult manner; the state of being fully grown or developed.
58. (2) The word **Grumpy (Adjective)** means : bad-tempered.
59. (4) The word **Lurid (Adjective)** means : wan, ghastly; sensational; murky, shocking and violent; too bright in colour in a way that is not attractive. Its antonym should be **mild**.
60. (2) The word **Niggardly (Adjective)** means : mean' unwilling to be generous with money; miserly.
Its antonym should be **generous**.
61. (3) Viswanathan Anand defeated Boris Gelfand of Israel in May 2012 in Moscow.
62. (4) Legendary Bengali actor Soumitra Chatterjee was on May 3, 2012 conferred the Dada Saheb Phalke Award for the year 2011.
63. (2) Deepika Kumari is related to Archery.
64. (3) The "Motto of Olympics 2012" was "Inspire a Generation".
The Olympics Games 2012 were organised in London from July 27 to August 12, 2012. United States topped the medals tally with 46 gold medals.
65. (4) Fair Play Award was given to Rajasthan Royals. Chris Gayle was given Orange Cap while Morne Morkel got Purple Cap.
66. (3) Jim Yong Kim took over as the President of World Bank from July 1, 2012. He succeeded Robert Zoellick.
67. (1) The President can enact laws through ordinance when the Parliament is in recess. These ordinances possess the force of a law but must be approved by Parliament within six weeks of its reassembly.
68. (4) All disputes arising in connection with the election of the Vice-President are petitioned to the Election Commission of India which inquires into the matter and gives final decision.
69. (3) Kankesethurai harbour is in Sri Lanka.
70. (1) This is due to the phenomenon of refraction of light. The rays of light coming from the coin lying at the bottom of a container travel from water to air, i.e., from denser to rarer medium.
71. (1) LHC is a gigantic scientific instrument near Geneva, where it spans the border between Switzerland and France.
72. (3) Light will have maximum speed in the that medium which has minimum refractive index.
73. (3) The SI unit of the power of lens is diopetre. One diopetre is the power of a lens whose focal length is one metre.
74. (2) From the various experiments carried out by JJ Thompson (1897) and others, the properties of cathode rays were established. The charge on the electron was found by R A Millikan (1917).
75. (4) Earth has an equatorial diameter of 12,756 km and polar diameter of 12,714 km. The Earth is a bit pear-shaped rather than a true sphere.
76. (1) Longitudes are the equidistant lines drawn east and west of the Greenwich Meridian. They denote angular distances of a place due east or west of the Greenwich Meridian. They converge at the two poles.
77. (3) The upward thrust experienced by a body floating in water is equal to weight of water displaced by the body. It is Archimedes' Principle.
78. (3) Acceleration
$$= \frac{\text{Change in Velocity}}{\text{Time taken for change}}$$

Unit of acceleration = metres (Distance) per second per second.
79. (1) Ohm's law gives a relationship between current and potential difference. According to Ohm's law, "At constant temperature, the current flowing through a conductor is directly proportional to the potential difference across its ends."
Current is inversely proportional to resistance.
80. (1) Alloy containing copper (87-90%), tin and zinc 10-13% is bronze.
81. (2) Petroleum is converted into a variety of products through the process of fractional distillation. Petroleum is a complex mixture of different hydrocarbons.

82. (1) Fa Hien (401-441 AD) : A Chinese pilgrim who visited India during the reign of Chandragupta II.

Hiuen Tsang (629-643 AD) : A Chinese pilgrim who visited India during the reign of Harshavardhan.

Thomas Roe (1515 AD) : He was an English ambassador to the court of Mughal Emperor Jahangir.

83. (3) 'Prohibition' is issued by the Supreme Court or High Courts to an inferior court forbidding the latter to continue proceedings therein in excess of its jurisdiction or to usurp a jurisdiction with which it is not legally vested. In other words, the object of the writ is to compel inferior courts to keep themselves within the limits of their jurisdiction.

84. (2) The characteristic smell of onion bulbs is due to its sulphur allyl, for example, propyl disulphide.

85. (3) Shall not preside the House but shall have right to speak and take part in the proceedings of the House and shall also have right to vote except in case of equality of votes

86. (2) Right to free and compulsory education for all children in the 6 to 14 age group

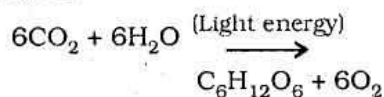
87. (1) The Purusasukta of the Rig Veda gives a mythical story of the origin of the four castes : Brahman, Kshatriya, Vaishya and Shudra.

88. (3) Kelvin is used to measure temperature. Kelvin is

$\frac{1}{273.16}$ of the thermodynam-

ic temperature of the triple point (equilibrium among the solid, liquid and gaseous phases) of pure water.

89. (1) The overall chemical reaction involved in photosynthesis is



90. (2) The script of Ashoka's inscriptions was Brahmi. Some of his inscriptions were in Kharoshthi script.

91. (3) In class X,
Required percentage

$$= \frac{24}{30} \times 100 = 80$$

In class Y,
Required percentage

$$= \frac{28}{35} \times 100 = 80$$

92. (2) If the cost of a pair of shoes be Rs. x , then

$$\frac{x \times 80}{100} = 1520$$

$$\Rightarrow x = \frac{1520 \times 100}{80}$$

$$= \text{Rs. } 1900$$

93. (1) Work done by Ajay and Sanjay in 5 days -

$$= 5 \left(\frac{1}{25} + \frac{1}{20} \right)$$

$$= 5 \left(\frac{4+5}{100} \right) = \frac{45}{100} = \frac{9}{20}$$

Remaining work

$$= 1 - \frac{9}{20} = \frac{11}{20}$$

\therefore Time taken by Sanjay in doing this remaining work

$$\left(\frac{11}{20} \right)$$

$$= \frac{11}{20} \times 20 = 11 \text{ days}$$

94. (2) From the given option, (2)

$$\text{S.I.} = \frac{\text{Principal} \times \text{Time} \times \text{Rate}}{100}$$

$$= \frac{250 \times 2 \times 20}{100} = \text{Rs. } 100$$

$$\text{C.I.} = P \left[\left(1 + \frac{R}{100} \right)^T - 1 \right]$$

$$= 250 \left[\left(1 + \frac{20}{100} \right)^2 - 1 \right]$$

$$= 250 \times \frac{11}{25}$$

$$= \text{Rs. } 110$$

95. (1) If the number of transferred soldiers be x , then

$$2000 \times 20 = (2000 - x) \times 25$$

$$\Rightarrow 1600 = 2000 - x$$

$$\Rightarrow x = 2000 - 1600 = 400$$

96. (3) First number \times second number = HCF \times LCM

$$\Rightarrow 117 \times \text{Second number}$$

$$= 13 \times 1989$$

$$\Rightarrow \text{Second number}$$

$$= \frac{13 \times 1989}{117} = 221$$

97. (2) If the required distance be x km, then

$$\frac{x}{40} - \frac{x}{45} = 1$$

$$\Rightarrow \frac{x}{8} - \frac{x}{9} = 5 \Rightarrow \frac{9x - 8x}{72} = 5$$

$$\Rightarrow \frac{x}{72} = 5$$

$$\Rightarrow x = 72 \times 5 = 360 \text{ km.}$$

98. (1) If the breadth of the field be x metre, then

$$15(40 + x) = 40 \times x$$

$$\Rightarrow 600 + 15x = 40x$$

$$\Rightarrow 40x - 15x = 600$$

$$\Rightarrow 25x = 600$$

$$\Rightarrow x = \frac{600}{25} = 24 \text{ metre}$$

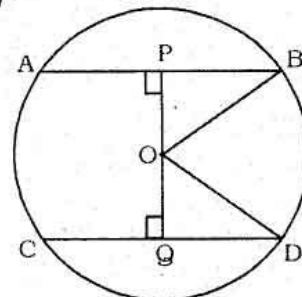
99. (3) Sum of the remaining two numbers

$$= 8 \times 14 - 6 \times 16$$

$$= 112 - 96 = 16$$

$$\therefore \text{Required average} = \frac{16}{2} = 8$$

100. (1)



$$AP = PB = \frac{8}{2} = 4 \text{ cm}$$

$$CQ = QD = \frac{6}{2} = 3 \text{ cm}$$

$$OB = OD = 5 \text{ cm}$$

From $\triangle OPB$,

$$OP = \sqrt{OB^2 - PB^2}$$

$$= \sqrt{5^2 - 4^2} = \sqrt{9} = 3 \text{ cm}$$

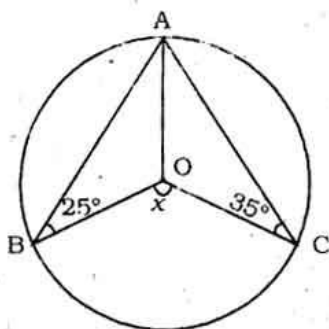
From $\triangle OGD$,

$$OG = \sqrt{5^2 - 3^2} = 4 \text{ cm}$$

$$\therefore PQ = OP + OQ$$

$$= 3 + 4 = 7 \text{ cm}$$

101. (4)



In $\triangle OAB$,

$OB = OA$

$$\therefore \angle OBA = \angle BAO = 25^\circ$$

$$\therefore \angle AOB = 180^\circ - 50^\circ$$

$$= 130^\circ$$

In $\triangle OAC$,

$OA = OC$

$$\therefore \angle OCA = \angle OAC = 35^\circ$$

$$\therefore \angle AOC = 180^\circ - 70^\circ = 110^\circ$$

$$\therefore \angle BOC = 360^\circ - 130^\circ - 110^\circ$$

$$= 120^\circ$$

102. (3) $QR = 5.4$

$$\therefore PQ + QR = 5 \text{ cm}$$

103. (2) Volume of the earth dug out

$$= \pi r^2 h = \frac{22}{7} \times 7 \times 7 \times 15$$

$$= 2310 \text{ cubic metre}$$

Radius of the well with embankment = 7 + 7

$$= 14 \text{ metre}$$

$$\therefore \pi(14^2 - 7^2) \times h = 2310$$

$$\Rightarrow \frac{22}{7} \times 21 \times 7 \times h = 2310$$

$$\Rightarrow h = \frac{2310}{22 \times 21}$$

$$= 5 \text{ metre}$$

104. (1) Total marks obtained by six students = 1418

Total marks obtained by 7 students

$$= 7 \times 226 = 1582$$

$$\therefore \text{Marks obtained by 7th student}$$

$$= 1582 - 1418 = 164$$

$$105. (3) (x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$$

$$106. (2) \frac{37}{2^2 \times 5} = 1.85$$

Here, index of 2 is 2.

107. (1) If one root be α , then other

$$\text{root} = \frac{1}{\alpha}$$

\therefore Product of roots

$$= \alpha \times \frac{1}{\alpha} = \frac{k}{3}$$

$$\Rightarrow \frac{k}{3} = 1 \Rightarrow k = 3$$

108. (3) By histogram, we can find mode.

109. (2) In a pack of 52 playing cards, there are 26 cards of red colour and there are two other kings of black colour.

Favourable outcomes

$$= {}^{28}C_1 = 28$$

Total possible outcomes

$$= {}^{52}C_1 = 52$$

\therefore Required probability

$$= \frac{28}{52} = \frac{7}{13}$$

110. (3) Volume of the bigger cube = (edge)³

$$= (18 \times 18 \times 18) \text{ cu.cm.}$$

Volume of a smaller cube

$$= (3 \times 3 \times 3) \text{ cu.cm.}$$

\therefore Number of smaller cubes

$$= \frac{18 \times 18 \times 18}{3 \times 3 \times 3}$$

$$= 6 \times 6 \times 6 = 216$$

111. (2) m = Interval after which minute hand overtakes the hour hand.

Gain or loss percent

$$= \left(\frac{720}{11} - m \right) \left(\frac{60 \times 24}{m} \right)$$

$$= \left(\frac{720}{11} - 64 \right) \left(\frac{60 \times 24}{64} \right)$$

$$= \frac{720 - 704}{11} \times \frac{60 \times 24}{64}$$

$$= \frac{16}{11} \times \frac{60 \times 24}{64} = \frac{360}{11}$$

$$= 32 \frac{8}{11} \text{ minutes}$$

Positive sign shows gain.

112. (1) If the breadth = x metre, then length = $(x + 23)$ metre

$$\therefore 2(x + 23 + x) = 206$$

$$\Rightarrow 2x + 23 = 103$$

$$\Rightarrow 2x = 103 - 23 = 80$$

$$\Rightarrow x = 40 = \text{breadth}$$

$$\therefore \text{Length} = 63 \text{ metre}$$

$$\therefore \text{Area} = 63 \times 40$$

$$= 2520 \text{ sq. metre}$$

113. (2) New ratio

$$= \frac{2 \times 115}{100} : \frac{3 \times 110}{100} : \frac{5 \times 120}{100}$$

$$= 2 \times 23 : 3 \times 22 : 120$$

$$= 23 : 33 : 60$$

114. (3) C.P. of a pencil = Rs. x and C.P. of a clipper = Rs. y

$$\therefore 21x + 9y = 819$$

On dividing by 3,

$$7x + 3y = \text{Rs. } 273$$

115. (2) $M_1 D_1 = M_2 D_2$

$$\Rightarrow 20 \times 7 = 28 \times D_2$$

$$\therefore D_2 = \frac{20 \times 7}{28} = 5 \text{ days}$$

116. (3) Increase in radius = increases in circumference = 5%

\therefore Increase in area

$$= \left(5 + 5 + \frac{5 \times 5}{100} \right) \% = 10.25\%$$

117. (2) Total possible outcomes = 8 (HTH, TTH, THH, HTT, HHT, THT, HHH, TTT)

Favourable outcomes

$$= \text{HHH, TTT} = 2$$

\therefore Required probability

$$= \frac{2}{8} = \frac{1}{4}$$

118. (2) Amount received by Rashmi

$$= \frac{6}{23} \times 625 = \text{Rs. } 163.04$$

119. (3) Rational number between

$$\frac{1}{2} \text{ and } \frac{3}{5}$$

$$= \frac{\frac{1}{2} + \frac{3}{5}}{2} = \frac{5 + 6}{10 \times 2} = \frac{11}{20}$$

120. (4) Let the number be x .

$$\therefore \frac{x}{2} - 50 = 50$$

$$\Rightarrow x = 100 \times 2 = 200$$