

Subject	Questions	Marks
Quantitative Aptitude	35	35
English Language	30	30
Reasoning Ability	35	35
Total	100	100

Directions (1-5): What should come in place of the question mark (?) in the following number series?

1) 8 , 4.5 , 5.5 , 13 , 56 , ?

- a) 566
- b) 496
- c) 596
- d) 450
- e) 456

2) 19 , 16 , 44 , 107 , ?

- a) 108
- b) 156
- c) 215
- d) 151
- e) 251

3) 11 , 14 , 23 , 50 , ?

- a) 111
- b) 121
- c) 151
- d) 131
- e) 141

4. 19 , 25 , 42 , 71 , 113 , ?

- a) 169
- b) 153
- c) 186
- d) 196
- e) 269

5. 21 , 35 , 30 , 44 , 39 , ?

- a) 59
- b) 53
- c) 55
- d) 45
- e) 46

6)

Find the value of

$$\sqrt{4 + \sqrt{44 + \sqrt{10000}}}$$

- (a) 44
- (b) 12
- (c) 4
- (d) 2
- (e) 5

7)

The value of

$$\sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$$

- (a) 1
- (b) 2
- (c) 3
- (d) 8
- (e) 10

8)

$$\sqrt{2\sqrt{2\sqrt{2\sqrt{2\sqrt{2}}}}}$$

equal to.

- (a) 0
- (b) $\sqrt{2}$

is

- (c) 2
- (d) $2\frac{31}{32}$
- (e) 3

- (c) 11
- (d) $\sqrt{0.11}$
- (e) $\sqrt{0.011}$

9)
The expression

$$\sqrt{\frac{0.85 \times (0.105 + 0.024 - 0.008)}{0.22 \times 0.25 \times 17}}$$

- simplifies to :-
- (a) $\sqrt{11}$
 - (b) $\sqrt{11}$

10)

if $\frac{2x}{2y} = \frac{3}{2}$ then the value of $\frac{2x+y}{x-2y}$ equals

- (a) $\frac{1}{7}$
- (b) 7
- (c) 7.1
- (d) 6.8
- (e) 6.9

Directions (11-15) Study the following table carefully and answer the given questions

Mobile	Cost Price	Selling Price	% of Profit	Profit
Samsung	35,000	----	----	3,500
Apple	53,000	----	14%	----
Micromax	----	22,000	----	----
LG	28,000	----	----	----
HTC	----	33,000	10%	----
Sony	32,000	----	----	4,000

11) What is the selling price and % of Profit of Sony Mobile ?

- 1.36,000 and 12.5%
- 2.36,00 and 15%
- 3.36,000 and 18%
- 4.36,000 and 20%
- 5.36,000 and 23%

12) What is the % of Profit Micromax, If Cost Price of Micromax is $\frac{3}{5}$ of Cost Price of HTC mobile ?

- 1.33 $\frac{1}{3}$ %
- 2.26 $\frac{4}{9}$ %
- 3.22 $\frac{2}{9}$ %
- 4.24 $\frac{5}{9}$ %
- 5.25 $\frac{7}{9}$ %

13) What is the selling price and % of profit of LG mobile?. If profit is 500 more than the profit of Samsung mobile .

- 1.32,000 and 14 $\frac{1}{7}$ %
- 2.34,000 and 14 $\frac{4}{7}$ %
- 3.32,000 and 15 $\frac{2}{7}$ %
- 4.34,000 and 17 $\frac{5}{7}$ %
- 5.32,000 and 14 $\frac{2}{7}$ %

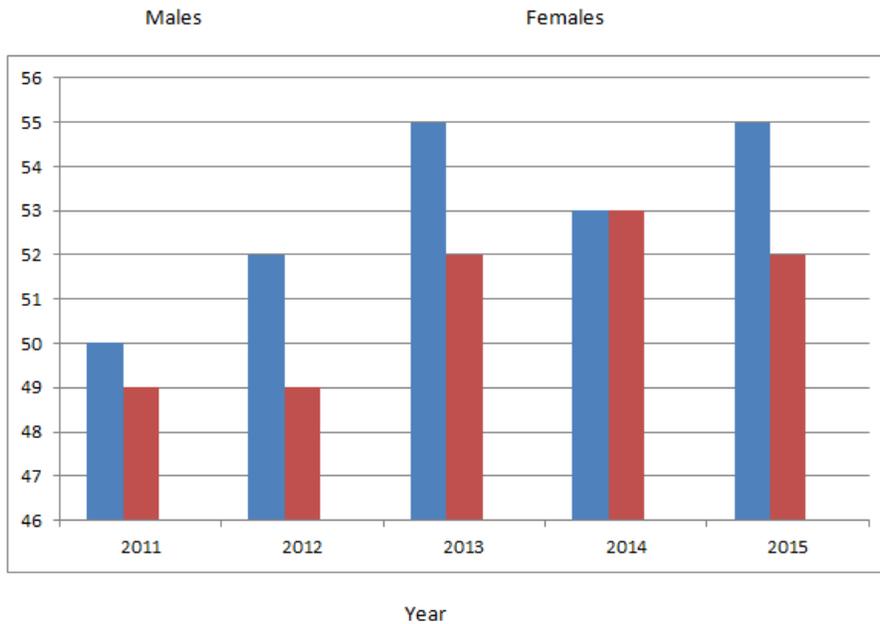
14) What is the profit earned on Apple mobile ?

- 1.7360
- 2.7450
- 3.7420
- 4.7560
- 5.7620

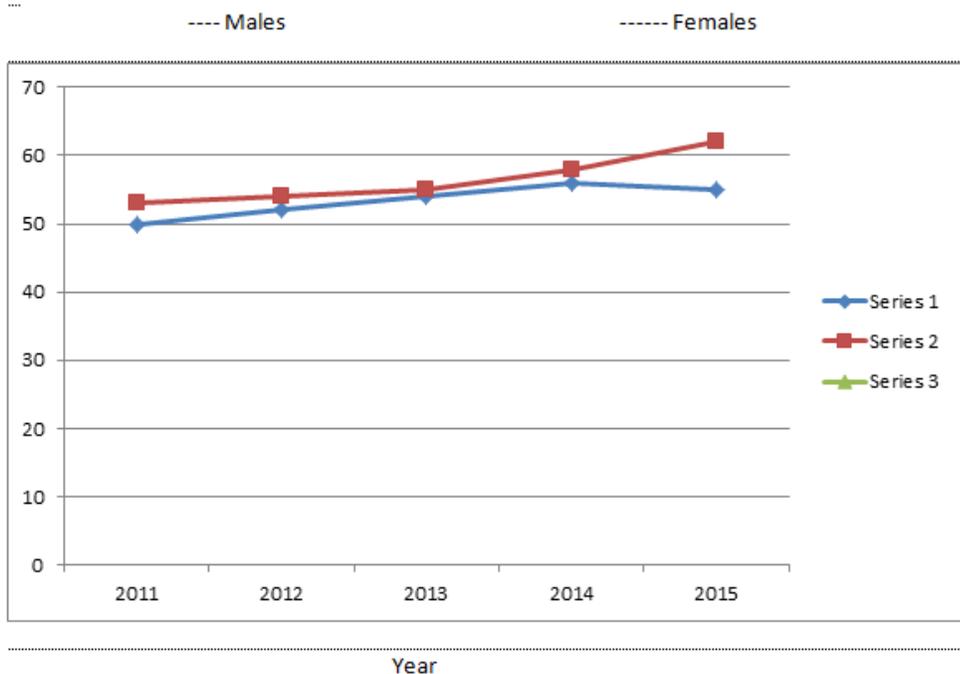
- 15) What is the ratio between Cost Price and Selling price of Samsung ?
- | |
|---------|
| 3.10:14 |
| 4.14:15 |
| 1.14:15 |
| 5.10:11 |
| 2.10:13 |

Direction (16-20): Study the bar graph and line graph carefully to answer the questions given below.

The bar graph shows the number of males and females (in thousand) in town X during the given years.



The line graph shows the number of males and females (in thousand) in town Y during the given years.



- 16) What is the ratio of the average number of males in town X to the average of males in town Y for the given period?
1. 269:282
 2. 265:281
 3. 265:283

4. 265:282

5. Other than the given options

17) In which of the following years, is the percentage increase or decrease in the number of females for town Y the minimum?

1. 2015

2. 2014

3. 2012

4. 2013

5. Both 1) and 2)

18) The population of town X in 2011 and 2012 together is approximately what per cent of the population of town Y in 2014 and 2015 together?

1. Other than the given options

2. 81.6%

3. 89.6%

4. 84.5%

5. 86.6%

19) Find the number of years in which the number of females in town X and Y are less than their respective average numbers.

1. One, Two

2. Two, Two

3. None

4. Three, Two

5. Other than the given options

20) In which of the following pairs of years is the difference in the number of males and females the maximum for town Y and minimum for town X respectively?

1. 2011 and 2014

2. 2015 and 2011

3. 2015 and 2014

4. 2013 and 2015

5. Other than the given options

Direction (21-25): In each question two equations are provided, On the basis of these have to find the relation between x and y. Give answer

1) if $x > y$

2) if $x \geq y$

3) if $x < y$

4) if $x \leq y$

5) if $x = y$ or no relationship between x and y can be established

21)

I. $12x^2 - 55x + 63 = 0$

II. $8y^2 - 22y + 15 = 0$

22)

I. $x^2 - 12x + 35 = 0$

II. $y^2 - 14y + 48 = 0$

23)

I. $6x^2 - 43x + 73 = 0$

II. $y^2 - 8y + 15 = 0$

24)

I. $12x^2 - 31x + 20 = 0$

II. $y^2 - 12y + 32 = 0$

25)

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

II. $2y^2 - 21y + 40 = 0$

26) Ravi goes downstream 120 km and upstream 40 km, taking 4 hrs each. What is the speed of current?

1. 10 kmph

2. 20 kmph

3. 25 kmph

4. 30 kmph

5. 35 kmph

27) Three buses travel same distance with speeds in the ratio 3 : 4 : 5. What is the ratio of the times taken by them to cover the distance?

1. 10 : 12 : 15

2. 20 : 15 : 12

3. 15 : 12 : 20

4. 15 : 15 : 20

5. None of these

28) Chocolates are bought at 54 for a rupee. How much must be sold for a rupee so as to gain 50%?

1. 12
2. 18
3. 25
4. 36
5. 45

29) A bag contains 6 red and 4 blue balls. 2 balls are drawn one by one without replacement. What is the probability that the balls are alternately of different colors?

1. $\frac{8}{15}$
2. $\frac{2}{15}$
3. $\frac{4}{15}$
4. $\frac{9}{15}$
5. $\frac{12}{15}$

30) Three pipes A, B and C can fill the tank in 10, 20 and 30 minutes respectively. If all the pipes are opened together and pipe B is turned off 5 minutes before the tank is full. Then find the time in which the tank will full.

1. $\frac{8}{15}$
2. $\frac{32}{15}$
3. $\frac{64}{15}$
4. $\frac{75}{11}$
5. $\frac{12}{15}$

31) If the price of sugar is reduced by 10%. How many kilograms of sugar a person can buy with the same money which was earlier sufficient to buy 50 kg of sugar ?

1. 20.20 kg
2. 35.36kg
3. 55.55 kg
4. 55.60 kg
5. None of these

32) A Company makes a profit of Rs.3,80,000, 10% of which is paid as taxes. If the rest is divided among the partners A, B and C in the ratio 5:3:4 then the share of A is

1. 85500
2. 85600
3. 75600
4. 65500
5. None of these

33) What half of a number is added to 468, it becomes five time of itself. What is the number ?

1. 100
2. 104
3. 108
4. 110
5. 115

34) A Person after allowing a trade discount of 105 from the marked price, makes a profit of 17% His marked price is

1. 27 % above cost price
2. 7 % above cost price

3. 30 % above cost Price
4. 34 % above cost price
5. 38 % above cost price

35) A clock strike once at 1 o'clock , twice at 2 o'clock , thrice at 3 o'clock and so on. What is the total number of strikings in a day ?

1. 24
2. 72
3. 144
4. 156
5. 158

English

Directions (36 –45): Read the following passage carefully and answer the questions given below it.

The last 10 years have seen an extraordinary quantum of interest and debate on the benefits and dangers of modernisation of India's retail sector, though never has this debate been shriller and more contentious than what has been seen in the past.

Unfortunately, no discussion has taken place even once in these years on the importance of the retail sector to India (not only just the 15+ million independent retailers and street hawkers), the need to make the producer to the consumer distribution system more efficient and less wasteful, and how to make these millions of independent retailers not only relevant for tomorrow but actually increase their numbers and enhance the economic and social vibrancy of their vocation. Sadly, much more attention has been misguidedly focused on just one single dimension of modernisation of the distribution and retail infrastructure namely "foreign direct investment". And most of the rhetoric of recent years has largely been on emotional and sometimes incorrect factual positions. Private consumption has long been the larger constituent of India's economy and even today, it accounts for almost 60% of India's GDP. Of this private consumption, more than 60% is what would constitute what we typically route

through retail channels.

The fact is India's retail story is not a zero sum game i.e. growth of new, modern, and sometimes larger in scale retail businesses has to come at the expense of decimation of the traditional, independent retail business owners. Even at a real growth of 6% per year and inflation of about 5% for the next 15 years, India's nominal GDP will be about \$8,000 billion in 2026. The size of India's retail market would have also moved up from about \$500 billion in 2011 to about \$2,500 billion in 2026.

Traditional retail currently accounts for as much as about \$475 billion of this market. Even if modern retail attracts as much as \$150 billion in fresh direct and indirect investment (from within India and overseas) over the next 15 years (i.e., \$10 billion per year), the size of modern retail business in India is not likely to cross \$300-350 billion by 2026, implying that traditional retail will account for as much as \$2,150-2,200 billion in revenues (or more than four times of their current size).

Accounting for inflation and some increase in productivity of traditional retailers, it can be very confidently assumed that in the most optimistic of all scenarios as far as investment in modern retail is concerned, the numbers of independent retail outlets in India will more than double by 2026 rather than show any decline whatsoever. If these facts are understood , then what should India be doing to facilitate this retail consumption taking place in a planned, organised manner rather than seeing millions of illegal retail establishments sprouting all over ?

First, our politicians, our bureaucrats, and our urban planners must realise the need and relevance of providing for retail spaces in an integrated, holistic planned way. At the very least, about 10-12 square feet of retail space is needed for every urban inhabitant. Urban agglomerations such as NCR, Greater Mumbai, and Kolkata therefore require at least 200 million square feet each of legalised retail space .

36) Which of the following is/ are the major concern for India's retail sector ?

- 1) More attention is being paid to the possible role of FDI.
- 2) No efforts are made by the authority to enhance efficiency of retail distribution.
- 3) The retailers are not regulated.
- 4) The retail sector in India is a potential retail market for employment prospects.
- 5) Both 1) and 2)

37) What has/have been suggested by the author? Answer in the context of the passage.

- (A) FDI should allowed only in a few restricted sectors.
(B) New players should not be allowed to invest funds.
(C) There should be proper planning for the developing of retail sectors.

- 1) Only (A)
- 2) Only (B)
- 3) Only (C)
- 4) Only (A) and (B)
- 5) Only (B) and (C)

38) What does the author mean by 'zero sum gain'?

- 1) Gain of branded retailers at the cost of traditional retailers.
- 2) Loss of some best retailers at the gain of others.
- 3) The number of retailers remain the same over the period of time.
- 4) Both 1 and 2
- 5) All 1 , 2 and 3

39) Which of the following is not contextual according to the passage ?

- 1) The modern retail will grow substantially but not relatively.
- 2) Traditional retailer will evaporate in the course of time.
- 3) Traditional retailer will grow relatively.
- 4) Inflation will be a factor to attribute growth
- 5) Other than given options

40) Choose the word which is MOST OPPOSITE in meaning to the word 'decimation' as used in the passage?

- 1) Annihilation
- 2) Devastation
- 3) Catastrophe
- 4) Holocaust
- 5) Establishment

41) Which of the following is true according to the passage ?

- 1) Retail market is the backbone of distribution system of the country.
- 2) Modernisation of India's retail sector is not that pious.
- 3) Retail management is required to work with wholesale market as well as Internet sales.
- 4) Independent retailer in the future market is a major

concern.

- 5) Other than given options

42) Choose the word which is MOST OPPOSITE in meaning of the word 'sprouting' as used in the passage?

- 1) Germinating
- 2) Burgeoning
- 3) Proliferating
- 4) Expanding
- 5) Subsiding

43) What is the central idea of the given passage ?

- 1) Impact of FDI on India's retail sector.
- 2) Growth in India's GDP.
- 3) Declining trend of traditional retail sector.
- 4) Issues related to management of modernisation of India's retail sector.
- 5) Other than given options

44) Give a suitable title to the above passage ?

- 1) Retailing in India
- 2) Retail sector in India and growing e-commerce challenge
- 3) Retail sector in India growing at phenomenal pace
- 4) India's retail sector: Missing the wood for the trees
- 5) FDI in retail sector in India

45) Choose the word which is MOST SIMILAR in meaning to the word 'contentious' as used in the passage?

- 1) Submissive
- 2) Complaisant
- 3) Netted
- 4) Controversial
- 5) Agreeable

Directions (46-55) : In the following Passage, there are blanks, each of which has been numbered. The numbers are printed below the passage and against each, four words are suggested, one of which fits the blank appropriately. Tick mark the appropriate word.

A step -by- (1) approach involving a measurable achievement each day is the (2) effective method to get results. Each little success gives you a shot of confidence and a (3) of accomplishment that will (4) sustain you in sticking to your programme. It also (5) the final goal seem more (6) since all you have to do is put (7) the same amount of effort each day. For

example, if you were asked to **(8)** a book of two hundred and fifty pages without having written anything significant before, this task probably would seem **(9)**. However, if you were asked to write two pages to text day, you would have to agree that this request would be both reasonable and **(10)**.

46)

- a. leap
- b. jump
- c. run
- d. step
- e. None of these

47)

- a. probable
- b. only
- c. likely
- d. only
- e. None of these

48)

- a. sensation
- b. satisfactions
- c. sense
- d. savour
- e. None of these

49)

- a. help
- b. ensure
- c. enable
- d. allow
- e. None of these

50)

- a. mars
- b. makes
- c. appears
- d. provides
- e. None of these

51)

- a. dependable
- b. alluring
- c. attractive
- d. achievable

e. None of these

52)

- a. out
- b. forward
- c. forth
- d. up
- e. None of these

53)

- a. read
- b. write
- c. recite
- d. momorize
- e. None of these

54)

- a. insurmountable
- b. inescapable
- c. intrinsic
- d. impersonal
- e. None of these

55)

- a. rational
- b. remote
- c. realistic
- d. impending
- e. None of these

Directions (56-65): In the following exercise, each of the sentences is divided into four parts, i.e. A, B, C and D. Find the part that has an error. If the sentence is error-free mark your answer as E.

56) (A) No sooner had he arrive/(B) than his best friend arranged a reception/(C) in his honour/(D) in the best hotel in the town./(E) No error

57) (A) Manali was trying for admission/(B) in the engineering college/(C) even though her parents wanted/(D) her to take up medical./(E) No error

58) (A) He told me that/(B) he could not buy paintings/(C) which he wanted very much/(D) because he had not enough money./(E) No error

59) (A) Although he had worked hard/(B) and was understanding as much about the subject/(C) as I did/(D) he failed to get a second class in the examination./(E) No error

60) (A) She has told me that her brother might have/(B) done much better at the university last year/(C) he had not given so much time/(D) to the students union./(E) No error

61) (A) Even though he was over/(B) ninety he still enjoyed reading/(C) novel and sometimes spend an/(D) evening at the cinema./(E) No error

62) (A) I will now deal with him/(B) in a manner different/(C) from the one /(D) I have adopted so far./(E) No error

63) (A) Mr. Kumar is planning/(B) to settle in Kolkata/(C) as soon as/(D) he will retire in April next year./(E) No error

64) (A) The film show/(B) began when/(C) we arrived/(D) in the hall./(E) No error

65) (A) No sooner had the news appeared/(B) in the paper than/(C) there is a rush/(D) at the counter./(E) No error

Reasoning

Direction (66-70): Study the following information carefully and answer the questions given below:

Eight person K,C,V,D,M,O,T and L are sitting around a square table, The Persons sitting at the corner are facing the center and the persons sitting in the middle are facing away from the centre. Each one of them like a different subjects away from the centre. Each one of them like a different subjects viz, English, Hindi, Civics, Geography, Physics, Biology, History and Chemistry but not necessary in the name order.

- V is facing outward and sits third to the left of C, who likes Geography.
- K is not facing towards the table and he sits between the persons who like Civics and Hindi.
- O sits opposite K and likes English
- C and L are opposite each other. their favorite subjects are geography and Civics respectively.

- T likes Biology and he is second to the left of O.
- The person who likes History is not next to M or O.
- The person who likes Physics sits fifth to the left of D, who likes Hindi.

66) Which of the following pairs sit between L and T when counted in anti-clockwise direction, starting from T?

1. C,O
2. K,D
3. V,C
4. M,O
5. Other than the given options

67) Who likes Physics?

1. O
2. T
3. V
4. D
5. Other than the given options

68) Four of the following five are alike a certain way and so form a group. Which is the one that does not belong to that group?

1. M
2. T
3. L
4. D
5. C

69) Who sits second to the left of the one who likes 'History'?

1. V
2. M
3. One who likes Physics
4. Both 1) and 3)
5. Other than the given options

70) Which of the following does not match correctly?

1. V-Facing towards the centre - Physics
2. T- Facing outward the centre - Biology
3. C- Facing towards the centre - Civics
4. O- Facing outwards the cenntre - History
5. All except 2)

Direction (71-76) Study the following information carefully and answer the questions given below:

There are eight persons viz. D, E, R, N, P, T, V and A sitting around a square table. They have a different professions viz. Engineer, Soldier, Teacher, Pilot, Artist, Doctor, Politician and Player but not necessarily in the same order. Four of them sit on the middle of the four sides while four of them sit on the four corners of the square table. All persons who sit at the four corners are facing the centre except one, while those who sit in the middle of the sides are facing outward the centre except one. T is neither Politician nor a Pilot. E is immediate left to the Player. N is not facing towards the centre. Soldier and Engineer are the neighbours of Doctor. D is a Teacher but not facing towards the centre. The Politician is the neighbour of both E and Soldier. Doctor is not facing towards the centre. R and A are facing each other but none of them is at middle of the sides. The Player is facing towards the centre but not sitting in the middle of the any side of the table. E sits second to the right of P, who is Soldier. Z is not the neighbour of either E or P and sits second to the right of N. V is between Artist and teacher.

71) Who among the following is a Pilot?

1. T
2. N
3. R
4. D
5. Z

72) Who among the following sits exactly between the Player and Politician?

1. E
2. Teacher
3. P
4. Both 1) and 2)
5. Artist

73) The profession of N is

1. Artist
2. Pilot
3. Doctor
4. Teacher
5. Player

74) How many person (s) sit (s) between V and the Doctor?

1. None
2. Three
3. Two

4. One
5. Other than the given options

75) Four of the following five are alike in a certain way, Find the odd man out?

1. ZT
2. PR
3. VE
4. ZD
5. RE

76) Which of the following is correctly matched?

1. Z-Engineer
2. N-Soldier
3. E-Artist
4. V-Pilot
5. T-Doctor

Directions (77- 82): Study the following information carefully and answer the questions given below it.

Eight Person 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 are Indian Army Officers in different rank namely- Field Marshal, General, Lieutenant General, Major General, Brigadier, Colonel, Major and Captain, but not necessarily in the same order. G is second to the right of the Field Marshal. The Major General and the General are immediate neighbours of G. C is second to the right of E who is the Brigadier. E is an immediate neighbour of the Major General. Only one person sit between H and F. D is third to the left of E. A sits exactly between F and D. The Major is second to the left of A. The Lieutenant General and the Captain are immediate neighbours of the Major. H is not the Captain.

77) How many persons are sitting between A and G, when counted from the right of G?

- a. One
- b. Two
- c. Three
- d. Four
- e. Five

78) Four of the following five are alike in a certain way and so from a group. which one does not belongs to that group?

- a. E – Brigade

- b. H – Lieutenant General
- c. F – Captain
- d. D – Major
- e. G - Colonel

79) Who sits second to the left of H?

- a. B
- b. G
- c. F
- d. A
- e. D

80) Who is third to the right of F?

- a. Brigadier
- b. B
- c. G
- d. General
- e. H

81) What is position of C with respect to G?

- a. Third to the left
- b. Fourth to the left
- c. Third to the right
- d. Immediate left
- e. Second to the left

82) Who amongst of the following is the Colonel?

- a. B
- b. F
- c. C
- d. G
- e. H

Directions (83 - 87): In the following questions, the symbols @, ©, \$, % and # are used with the following meaning as illustrated below:

P \$ Q	Means 'P is not greater than Q'
P @ Q	Means 'P is neither smaller than nor equal to Q'
P # Q	Means 'P is not smaller than Q'
P © Q	Means 'P is neither greater than nor equal to Q'

P % Q	Means 'P is neither smaller than nor greater than Q'
-------	--

83)

Statement:

D # K, K@T, T \$ M, M % J

Conclusions:

- I. J @ T
- II. J % T
- III. D @ T
- a) Only I is true
- b) Only II is true
- c) Either I or II is true
- d) Either I or II and II are True
- e) None of these

84)

Statement:

R @ N, N © D, D \$ J, J # B

Conclusions:

- I. R @ J
- II. J @ N
- III. B @ D
- a) None is True
- b) Only I is true
- c) Only II is true
- d) Only III is true
- e) None of these

85)

Statements:

W © B, B & V, V \$ R, R @ K

Conclusions:

- I. K © B
- II. R # B
- III. V @ W
- a) I and II are true
- b) I and III are true
- c) II and III are true
- d) All III are true
- e) None of these

86)

Statements:

H \$ M, M # T, T @ D, D © R

Conclusions:

I. D @ M

II. R @ M

III. H \$ T

- None is True
- Only I is True
- Only II is True
- Only III is True
- None of The Above

87)

Statements:

B % J, J @ K, K @ T, T \$ F

Conclusions:

I. F @ K

II. B @ K

III. B @ F

- I and II are True
- I and III are True
- II and III are True
- All are True
- None of these

88)

Statements:

F # B, B \$ M, M @ K, K @ N

Conclusions:

I. N @ M

II. F \$ M

III. K @ B

- Only I is True
- Only II is True
- Only III is True
- None is True
- None of these

Directions (89-93): Study the following information carefully and answer the questions given below:

In a certain code language "all players are energetic" is written as "zee dp zn nt".

"are they really energetic" is written as "mb nt re zn",

"related to all players" is written as "st zee dp ta",

discipline is related to game", is written as "gt ta no st np"

, 'game is really to enjoy is written as 'np re gt ta fr'.

89) Which of the following is the code for 'enjoy'?

- ta
- st

3. gt

4. fr

5. no

90) Which of the following does 'dp zn nt' stand for?

- all are energetic
- players are energetic
- they are players
- all are players
- Cannot be determined

91) Which of the following is the code for 'discipline'?

- no
- st
- gt
- re
- mb

92) If 'the discipline is enjoyed' is written as 'kp no np fr' then what is the code for ' the game to enjoy'?

- no fr ta kp
- kp gt ta fr
- ta fr no gt
- mb st gt nt
- kp gt tec fr

93) Which of the following stand for 'zee'?

- all
- player
- energetic
- players
- Either 1 or 4

94) Kailash pointing towards an old man said," His son is my son's Uncle." How is kailash related to the old man?

- Brother
- Uncle
- Father
- Grandfather
- Sister

95) Pointing to a man, Rohit said,"His son is my son's uncle." How is the man related to Rohit?

- a) Father
- b) Grandfather
- c) Uncle
- d) Brother
- e) Sister

96) Rashmi is Ram's mother's daughter's daughter. What is her relationship to Ram?

- a) Aunt
- b) Daughter-in-law
- c) Friend
- d) Niece
- e) None of these

97) laxman went 15 km towards north. Then he turned west and covered 10 km. Then the turned south and covered 5 km. Finally turning towards east, he covered 10 km. In which direction is he from his house?

- a. East
- b. West
- c. North
- d. South
- e. None of these

98) In a panel of five members sitting in a circle facing inward, A is in the middle of B and E,D is to the right of E and to whose left is C. Find the position of B in the panel.

- a. Immediate left of A and E.
- b. Immediate left of D.
- c. Immediate rights of A.
- d. Immediate rights of C.

- e. None of these

99) The average age of a man and his son is 48 years. The ratio of their age is 5 : 3 respectively .What is the son's age ?

- a. 36 years
- b. 38 years
- c. 40 years
- d. 45 years
- e. 55 years

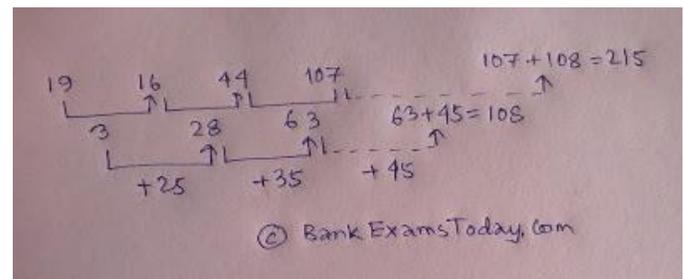
100) The ratio of ages of Namrata and Divya is 4 : 3 .The sum of their ages is 28 years.The ratio of their ages after 4 years will be :

- (a) 3: 4
- (b) 5 : 4
- (c) 5 : 6
- (d) 6 :5

Answers:

- 1. e) 456
 $8 \times 0.5 + 0.5 = 4.5$
 $4.5 \times 1 + 1 = 5.5$
 $5.5 \times 2 + 2 = 13$
 $13 \times 4 + 4 = 56$
 $56 \times 8 + 8 = 456$

- 2. c) 215



3. d) 131

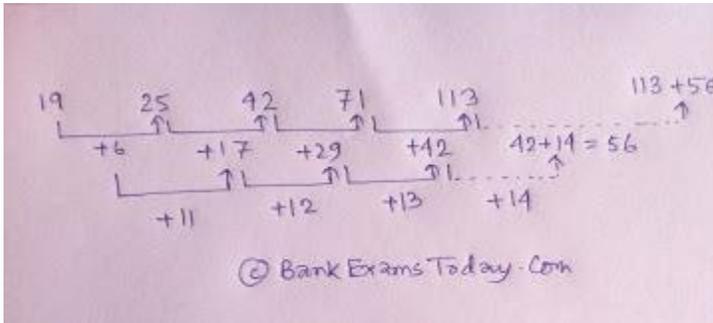
$$11 + 3^1 = 11 + 3 = 14$$

$$14 + 3^2 = 14 + 9 = 23$$

$$23 + 3^3 = 23 + 27 = 50$$

$$50 + 3^4 = 50 + 81 = 131$$

4. a) 169



5. b) 53

$$21 + 14 = 35$$

$$35 - 5 = 30$$

$$30 + 14 = 44$$

$$44 - 5 = 39$$

$$39 + 14 = 53$$

6)

$$\sqrt{4\sqrt{44\sqrt{10000}}} = \sqrt{4\sqrt{44+100}} =$$

7) (B)

8)

$$\begin{aligned} \text{Let } x &= \sqrt{2\sqrt{2\sqrt{2\sqrt{2}}}} \\ x^2 &= 2\sqrt{2\sqrt{2\sqrt{2}}} \\ x^4 &= 2^2 \times 2\sqrt{2\sqrt{2}} \\ x^8 &= 2^4 \times 2^2 \times 2\sqrt{2} \\ x^{16} &= 2^8 \times 2^4 \times 2^2 \times 2\sqrt{2} \\ x^{32} &= 2^{16} \times 2^8 \times 2^4 \times 2^2 \times 2 \\ x^{32} &= 2^{31} = x = 2^{\frac{31}{32}} \end{aligned}$$

9) (A)

10) (B)

$$\frac{x}{2y} = \frac{3}{2} \Rightarrow \frac{x}{y} = 3$$

$$\frac{2x+y}{x-2y} = \frac{2\left(\frac{x}{y}\right)+1}{\left(\frac{x}{y}\right)-2} = \frac{2 \times 3 + 1}{3 - 2} = 7$$

11) 1

$$\text{Selling price} = 32,000 + 4000 = 36,000$$

$$\% \text{ of Profit} = 4000/36000 = 12.5\%$$

12) 3

$$\text{HTC mobile Selling Price} = 33,000$$

$$\text{HTC Mobile \% Of Profit} = 10\%$$

$$\text{means } 33,000 \text{ ----- } 110\%$$

$$? \text{ ----- } 100\% \text{ (CP)}$$

$$\text{Cost Price of HTC} = 30,000$$

$$\text{Micromax cost price} = 3/5 * 30,000 = 18,000$$

$$\text{Selling price} = 22,000$$

$$\text{profit} = 4,000$$

$$\% \text{ of profit} = (4000/18,000) * 100 = 22 \frac{2}{9}\%$$

13) 5

$$\text{Profit on Samsung mobile} = 3,500$$

$$\text{from that profit on LG mobile} = 3500 + 500 = 4000$$

$$\text{Selling Price of LG mobile} = 32,000$$

$$\% \text{ of profit on LG} = (4000/28,000) * 100 = 14 \frac{2}{7}\%$$

14) 3

$$\text{Cost Price} = 53,000$$

$$\% \text{ of profit} = 14\%$$

$$53,000 \text{ ----- } 100\%$$

$$? \text{ ----- } 114\%$$

$$\text{Selling price} = 60,420$$

$$\text{profit} = 60,420 - 53,000 = 7420$$

15) 5

$$\text{Cost Price} = 35,000$$

$$\text{Selling Price} = 35,000 + 3500 = 38500$$

$$\text{Ratio} = 35000 : 38500 = 10:11$$

16) 4; Required ratio

$$= \frac{50+52+55+53+55}{5} \times 1000:$$

$$\frac{53+54+55+58+62}{5} \times 1000 = 265 : 282$$

17) 1; The percentage increase or decrease in the number of females for town Y are as under;

$$2012 = \frac{52-50}{50} \times 100 = 4\%$$

$$2013 = \frac{54-52}{52} \times 100 = 3.85\%$$

$$2014 = \frac{56-54}{54} \times 100 = 3.70\%$$

$$2015 = \frac{55-56}{56} \times 100 = 1.78\%$$

Hence, minimum is in 2015.

20) 3; Difference between the population of males and females;

	2011	2012	2013	2014	2015
X	1000	3000	3000	0	3000
Y	3000	2000	1000	2000	7000

∴ Desired pair is 2015 and 2014.

21) 1;

I. $12x^2 - 55x + 63 = 0$

$$\Rightarrow 12x^2 - 27x - 28x + 63 = 0$$

$$\Rightarrow (3x-7)(4x-9) = 0$$

$$\therefore x = 7/3, 9/4$$

II. $8y^2 - 22y + 15 = 0$

$$\Rightarrow 8y^2 - 10y - 12y + 15 = 0$$

$$\Rightarrow (2y - 3)(4y-5) = 0$$

$$\Rightarrow y = 3/2, 5/4$$

Hence, $x > y$

18) 5; Required percentage

$$= \frac{(50+49)+(52+49)}{(58+56)+(62+55)} \times 100$$

$$= \frac{200}{231} \times 100 = 86.6\%$$

19) 2; Average number of females for town X = 51000

Average number of females for town Y = 53400

So, 2011 and 2012 are two desired years for town X. Also,

2011 and 2012 are two desired years for town Y.

22) 5;

I. $x^2 - 12x + 35 = 0$

$$\Rightarrow x^2 - 5x - 7x + 35 = 0$$

$$\Rightarrow (x-5)(x-7) = 0$$

$$\therefore x = 5, 7$$

II. $y^2 - 14y + 48 = 0$

$$\Rightarrow y^2 - 6y - 8y + 48 = 0$$

$$\Rightarrow (y-8)(y-6) = 0$$

$$\therefore y = 8, 6$$

∴ No relationship between x and y exists.

23) 5;

I. $6x^2 - 43x - 72 = 0$

$$\Rightarrow 6x^2 - 16x - 27x + 72 = 0$$

$$\Rightarrow (2x - 9)(3x - 8) = 0$$

$$\therefore x = 9/2, 8/3$$

$$\text{II. } y^2 - 8y + 15 = 0$$

$$\Rightarrow y^2 - 3y - 5y + 15 = 0$$

$$\Rightarrow (y-3)(y-5)$$

$$\therefore y=3,5$$

\therefore No relationship between x and y exists.

24) 3;

$$\text{I. } 12x^2 - 31x + 20 = 0$$

$$\Rightarrow 12x^2 - 15x - 16x + 20 = 0$$

$$\Rightarrow (3x-4)(4x-5) = 0$$

$$\therefore x = 4/3, 5/4$$

$$\text{II. } y^2 - 12y + 32 = 0$$

$$\Rightarrow y^2 - 4y - 8y + 32 = 0$$

$$\Rightarrow (y-8)(y-4) = 0$$

$$\therefore y = 8,4$$

Hence, $x < y$

25) 5;

$$\text{I. } 2x^2 - 11x + 15 = 0$$

$$\Rightarrow 2x^2 - 5x - 6x + 15 = 0$$

$$\Rightarrow (x-3)(2x-5) = 0$$

$$\therefore x = 3, 5/2$$

$$\text{II. } 2y^2 - 21y + 40 = 0$$

$$\Rightarrow 2y^2 - 16y - 5y + 40 = 0$$

$$\Rightarrow (2y-5)(y-8) = 0$$

$$\therefore y = 5/2, 8$$

\therefore No relationship between x and y exists.

26) Solution :

Down stream speed = $120/4 = 30$ kmph

Up stream speed = $40/4 = 10$ kmph

Speed current = $(30-10)/2 = 10$ kmph

27)

Time ratio = $1/3 : 1/4 : 1/5$

\Rightarrow Ratio = $20 : 15 : 12$

28)

$$= 54 * 100/150$$

$$= 36$$

29)

When 1st is red = $6/10 * 4/9 = 12/45$

When 1st is green = $4/10 * 6/9 = 12/45$

Add two cases = $24/45 = 8/15$

30)

Let total time taken by the pipes is T hrs, then

$$\Rightarrow (1/10 + 1/20 + 1/30)(T - 5) + (1/10 + 1/30)*5 = 1$$

$$\Rightarrow (11/60)(T-5) + (4/30)*5 = 1$$

$$\Rightarrow T = 75/11$$

31)

Let the original price = 100 Rs per kg

Then money required to buy 50 kg = $50*100 =$ Rs 5000

New price per kg is $(100-90)\%$ of Rs 100 = 90

So quantity of sugar bought in 5000 Rs is $5000/90 = 55.55$ kg

32)

$$10\% = 380000*10/100 = 38000$$

Remaining = Rs.3,42,000

$$X = 3,42,000*3/12 = 85,500$$

33)

$$x/2 + 468 = 5x$$

$$\Rightarrow 5x - x/2 = 468$$

$$\Rightarrow 9x/2 = 468$$

$$X = 468*2/9 = 104$$

34) Let the cost price be Rs 100 and M.P. be Rs $(100 + x)$.

$$\therefore (100+x) * 90/100 = (100 + 17)$$

$$\Rightarrow x + 100 = 117/0.9 = 130$$

$$\therefore x = \text{Rs } 30$$

\therefore M.P. = 30% above C.P.

35) From 1 to 12, the clock would continue to strike and then start from 1 to 12 in the same manner.

\therefore Sum of the number of strikes the clock makes from 1 to 12 [i.e. $1 + 2 + 3 + 4 + \dots + 12$]

$$= 12/2 \{ 2 * 1 + 12 - 1 \} 1$$

$$\{ \text{Sum of A.P.} = n/2[2a + n - 1] 1 \}$$

$$= 6 (13) = 78$$

\therefore Required number = $2 * 78 = 156$.

- 36) 5
- 37) 3
- 38) 4
- 39) 2
- 40) 5
- 41) 5
- 42) 5
- 43) 4
- 44) 4
- 45) 4
- 46) d
- 47) b
- 48) c
- 49) a
- 50) b
- 51) d
- 52) c
- 53) b
- 54) a
- (66-70)

55) c

56) A; arrived should come in place of arrived. Because we

use the third form of the main verb with has/have/had

57) C; had wanted should come in place of wanted.

58) C; which he had wanted should come in place of he wanted.

59) B; understood should come in place of was understanding because we have "had" in the sentence in part A.

60) A; She told me should come in place of "She has told me" because we are talking about past tense in which the person told us something.

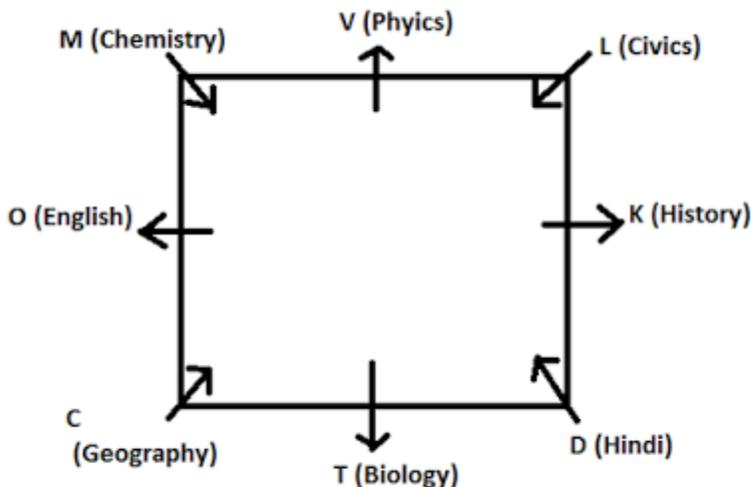
61) C; Spent should come in place of spend because the other part of the sentence is in past tense.

62) D; I have been adopting should come in place of I have adopted to show the continuity of the activity.

63) D; He retires should be used because we use simple present tense to show fixed programs or the plans of nearest future.

64) B; Had begun will come in the sentence because the action was accomplished.

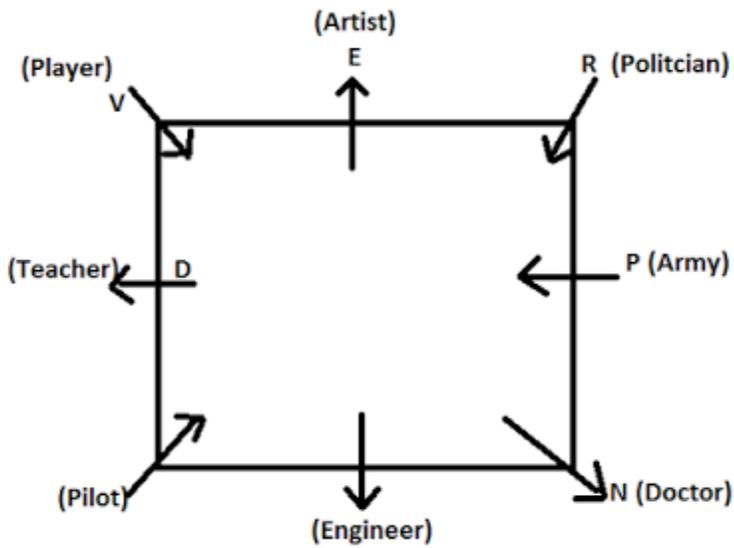
65) D; was a rush should be used because the sentence is in past tense.



- 66) 2
- 67) 3
- 68) 2

- 69) 4
- 70) 5

(71-76)



71) 5

75) 2

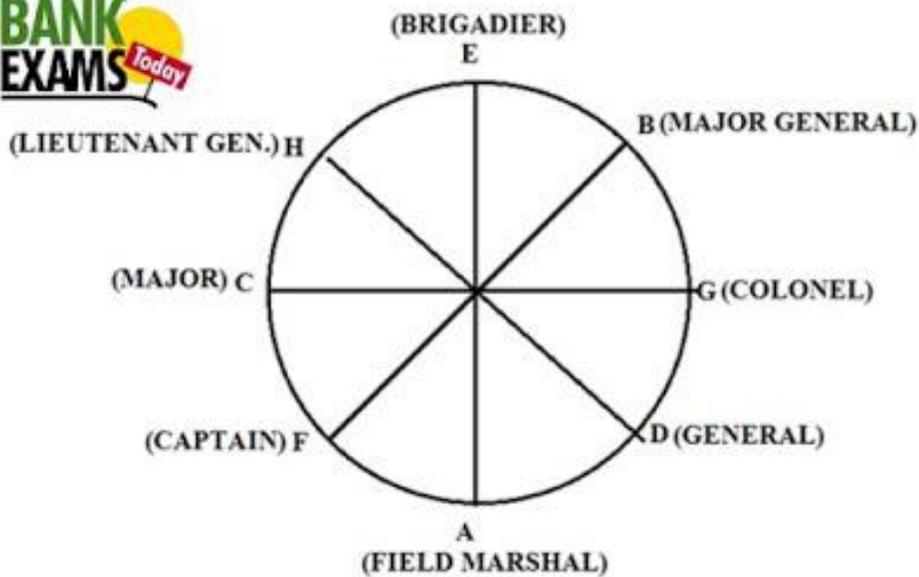
72) 4

76) 3

73) 3

74) 2

(77-82):



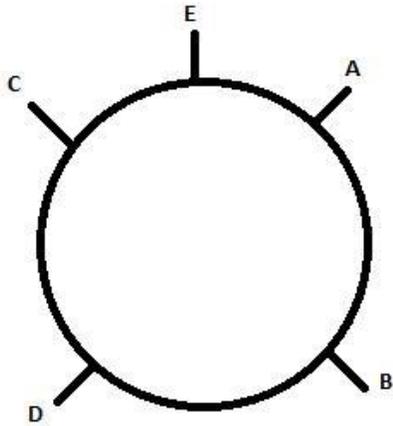
77) 5

79) 1

78) 4

80) 3

98) (a) immediate left of A and E



99) Sum of ages of man and his son = $2 \times 48 = 96$

Let the ages of man and his son be $5x$ and $3x$ years; then

$$5x + 3x = 96 \quad \Rightarrow \quad x = 12$$

Hence, son's age = $3x = 3 \times 12 = 36$ years.

100) Let the present ages of Namrata and Divya are $4x$ and $3x$ years respectively; then $4x + 3x = 28$

Hence, their present ages are 16 and 12 years.

so, required ratio = $(16 + 4) : (12 + 4) = 20 : 16 = 5 : 4$