

Test-I English Language

Directions (Q. 1-(e): Rearrange the following six sentences (A), (B), (Q), (D), (E) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

- (A) No force is used to persuade the reader.
- (B) The pen expresses a personal or public opinion.
- (C) The reader has the right to hold his own view; he may not be convinced of the writer's judgement and opinions presented to him.
- (D) It stands for the press, literature, newspapers, books and other writings.
- (E) We may, therefore, say that the pen stands for the peaceful means by which a person is persuaded to accept the views which the writer holds.
- (F) The purpose of all writings is to connect one's mind with another, to persuade the reader to take up the view which the writer holds on a particular subject.

1. Which of the following should be the FIRST sentence after rearrangement?
(a) A (b) F (c) E (d) C (e) B
2. Which of the following should be the LAST (SIXTH) sentence after rearrangement?
(a) B (b) A (c) C (d) D (e) E
3. Which of the following should be the THIRD sentence after rearrangement?
(a) E (b) C (c) A (d) F (e) B
4. Which of the following should be the SECOND sentence after rearrangement?
(a) D (b) E (c) F (d) C (e) B
5. Which of the following should be the FOURTH sentence after rearrangement?
(a) F (b) D (c) C (d) B (e) A

Directions (Q. 6-15): In the following passage, some of the words have been left out, each of which is indicated by a number. Find the suitable word from the options given against each number and fill up the blanks with appropriate words to make the paragraph meaningful.

Life insurance helps families maintain their standard of living and also helps them save for their long-term goals. LIC, being the oldest and the biggest in the life insurance industry, knows it best in (6) lives and money.

Most people have their first contact with an insurance company (7) an insurance sales agent. These people help individuals, families and businesses (8) insurance policies

that provide the best protection for their lives, health and property. Agents prepare reports, maintain records, (9) out new clients, and, in the (10) of a loss, help policyholders (11) their insurance claims. Increasingly, some are also offering their clients financial analysis or advice on ways to minimise risk.

Life insurance agents (12) in selling policies that pay the beneficiaries in the event of death of life insured or on (13). Depending on the policyholder's circumstances, a cash-value policy can be (14) to provide retirement income, funds for the education of children, or other benefits. Life insurance agents also sell annuities that (15) a retirement income.

6. (a) returning (b) handling
(c) saving (d) promising
(e) controlling
7. (a) with (b) of (c) over (d) about
(e) through
8. (a) select (b) elect (c) choice (d) detect
(e) pick
9. (a) hunt (b) investigate (c) seek
(d) chase (e) delve
10. (a) accident (b) event (c) fact (d) occasion
(e) chance
11. (a) clear (b) conclude (c) decide (d) adjudge
(e) settle
12. (a) specialise (b) pursue
(c) work (d) broaden
(e) convince
13. (a) endurance (b) durability
(c) survival (d) revival
(e) medical
14. (a) constructed (b) designed
(c) useful (d) developed
(e) purchased
15. (a) claim (b) calculate (c) arrange
(d) secure (e) promise

Directions (Q. 16-24): Read the passage carefully and answer the questions given below it.

Things have got so bad between India and Pakistan that when they talk peace it looks like war. Their prime ministers were to address the 65th annual session of the United Nations General Assembly (UNGA) in New York and then meet on the sidelines.

One day Prime Minister Nawaz Sharif made some ill-advised, bellicose, Kashmir-related remarks against India in his speech at the UNGA. On the following day Prime Minister Manmohan Singh lashed out at Pakistan in his speech. Before they met the next day Sharif reportedly called Singh a "village hag" (sic) off the record and put paid to whatever diplomatic gains he had counted on. After that, the meeting could not be one-on-one.

Back home, the Indo-Pak media war was savage, sharpened by BJP leader Narendra Modi's explosive reaction to the "village hag" remark. One channel pitted the notoriously visceral Pakistani politician Sheikh Rashid Ahmed against Hindu and Muslim Indians, scoring brownie points while anchors lost their neutral cool.

The New York meeting achieved nothing except a vague agreement on sorting out the recent Line of Control incidents through armies that hate each other. Pakistan's reference to Indian terrorism in Balochistan was correct but not comparable to India's globally accepted designation of Pakistan as the epicentre of terrorism, threatening the world, including the US, the EU, India, Russia and China, to say nothing of the Central Asian states, which cower before the Uzbek terrorists trained in Pakistan.

Manmohan Singh's reaction to an act of terrorism in Jammu on the eve of his meeting with Sharif was brave and statesmanlike, given the negative press he has at home and the populist atmospherics of the coming elections in India. He said he would not be deterred by terrorism while talking peace with Pakistan. While in New York, he met President Barack Obama - who could not find time for his Pakistani counterpart - and agreed to meet Sharif, with caveats against pinning high hopes on the meeting.

Sharif's reference to Kashmir at the UNGA was aimed more at audiences at home than at India. He also expressed Pakistan's newfound plaint about the "unjust" global system created by a flawed UN and called, unrealistically, for reforms in the world body. At home, right-wing TV anchors and newspaper reporters were pleased that "he spoke softly but gave a harsh message". Some were put off because he was not "fiery" enough, meaning that he lacked in denunciations' "Chavismo" or the parading of a poor man's useless tumescence in global politics.

Ace anchor Kamran Khan gave the familiar, but repeatedly defeated, spin to the Jammu attack on Indian police and military troops: "The attacks inflicted a heavy loss to the Indian army and police and also revived the assertion that no effort for peace between Pakistan and India could bear fruit until the Kashmir issue was resolved."

Sharif was toeing the Foreign Office line, which has traditionally toed the Pakistan army line, built on the frozen geopolitical position on India as a permanent enemy opposed to the very existence of Pakistan. The last bit is supported by the textbook brainwash in the schools of Pakistan, particularly Punjab, currently ruled by Sharif's rightwing PML(N).

His plaint about Kashmir not finding place on the roster of issues at the UN was purely for home consumption, because the 1972 Indo-Pak Simla Agreement

had forever assigned it to bilateral dialogue. Pakistan had - wrongly tried to move the International Court of Justice (ICJ) against India for the 1999 shooting down of a surveillance aircraft. The ICJ, while asserting that it had no jurisdiction over the matter, gratuitously advised Pakistan to abide by the 1972 change of status of all disputes.

16. Why did the issue of Kashmir not figure on the roster of issues at the UN?

- (a) Because the UN does not want to poke its nose in such a complicated issue.
- (b) Because the Kashmir issue is not so important in comparison to other global issues.
- (c) Because, as per the Indo - Pak Shimla Agreement 1972 Kashmir issue can be resolved only through bilateral dialogues.
- (d) Because ICJ does not exercise its jurisdiction over the matters of India and Pakistan.
- (e) None of these

17. What results came out of the New York meeting between the two Prime Ministers?

- (a) That they would effectively deal with the Uzbek terrorists being trained in Pakistan
- (b) Both the countries agreed to reduce deployment of their forces at Indo-Pak borders.
- (c) That they would take concrete steps to minimise the threat of Indian terrorism in Balochistan
- (d) Nothing except a vague agreement on sorting out the recent LoC incidents through armies.
- (e) All the above

18. Why is it mentioned that when India and Pakistan talk peace, it looks like war?

- (A) Because the Prime Ministers of both the countries made reproachful remarks against each other.
- (B) Because both the countries are weak at their homes and they cannot help a war talk.
- (C) Because both the countries tend to behave in a savage manner.
- (a) Only (A)
- (b) Only (B)
- (c) Only (C)
- (d) Both (A) and (B)
- (e) Both (A) and (C)

19. Why did Nawaz Sharif call Manmohan Singh a 'village hag'?

- (a) Because Nawaz Sharif has gone insane and does not have any bit of courtesy and manner.
- (b) Because Manmohan Singh had lashed out at Pakistan in his speech just a day before.
- (c) Because of their bitter relationships
- (d) Because Nawaz Sharif knew that India is a very weak country and would not dare to counter his remarks
- (e) None of these

20. What prompted the anchors of a media channel to lose their neutral cool?

- (A) The pugnacious remarks made by Nawaz Sharif against India

- (B) Because of the humiliating remarks by a Pakistani politician against Hindu and Muslim Indians
 (C) Because of the rude tone of a prominent BJP leader
 (a) Only (A) (b) Only (B)
 (c) Both (A) and (B) (d) Both (A) and (C)
 (e) Only (C)
- 21. Why did Manmohan Singh say before going to New York to meet President Barack Obama that he would not be deterred by terrorism while talking peace with Pakistan?**
 (a) Because he knew that war against war or terror against terror cannot bring peace to a region.
 (b) Because he knew that Pakistan is not so weak that it could be easily defeated in a war.
 (c) Because of the internal pressure from the party members.
 (d) Because he wanted to establish that an act of terrorism cannot deter his strong determination of peace talk with Pakistan
 (e) Because he wanted to create populist atmospherics of the coming elections in India.
- 22. Which of the following is false about Sharif's address to the 65th annual session of the United Nations General Assembly in New York?**
 (a) Nawaz Sharif asserted Pakistan's newfound complaint against the unjust global system created by the United Nations.
 (b) As per the right-wing TV anchors and newspaper reporters, Sharif gave a harsh message in soft tone.
 (c) Some of the left-wing TV anchors and newspaper reporters claimed that his speech was not so fiery as it should have been.
 (d) Sharif's reference to Kashmir at the UNGA was aimed at India rather than at Pakistan.
 (e) All the above are true
- 23. Which of the following is true about the given passage?**
 (a) The given passage is a reflection of improving relationship between India and Pakistan.
 (b) The given passage presents the current status of Indo-Pak relations.
 (c) The given passage tries to defame the Prime Ministers of both India and Pakistan.
 (d) The given passage has been written by a pro-Pakistan writer.
 (e) The given passage presents a distorted picture of Indo-Pak relations.
- 24. What is Pakistan doing, as a last resort, to create anti-India sentiment?**
 (A) It is helping terrorist organisations on its land.
 (B) It is trying to brainwash school children and instil anti-India sentiments in their minds.
 (C) It is recruiting women suicide bombers in its territory.
 (a) Only (A) (b) Only (B)
 (c) Only (C) (d) Only (A) and (B)
 (e) Only (B) and (C)

Directions (Q. 25-30): In each sentence below four words that the printed in bold have been lettered (a), (b), (c), (d) and (e). One of them may be wrongly spelt or inappropriate in the context of the sentence. Find out the word, which is wrongly spelt or inappropriate if there is any. The letter of that word is the answer. If all the words, which are printed in bold, are correctly spelt and appropriate in the context of the sentence, mark (e) as the answer ie All correct.

- 25. According to these estimates (a)/ our profitable (b) margin (c)/ will be higher if we adopt (d)/this approach. All correct (e)**
- 26. In order to confront (a)/the threat (b)/of global warming it is imperative (c)/that we work altogether (d)/ All correct**
- 27. This firm which is based (a)/ in France is prepaired (b)/ to finance (c)/ small Indian businesses which produce (d)/ environment-friendly products. All correct (e)**
- 28. Despite intense (a)/ pressure (b)/ from his superiors he refused to discloze (c)/ the findings (d)/ of the report. All correct (e)**
- 29. Corporates have benefited tremendously (a)/ from the government's timely (b)/ decision to waive (c)/ various tax (d)/. All correct (e)**
- 30. Since you are unable (a)/ to repay the loan you have no alternate (b)/ but to seek (c)/ an extension (d)/. All correct (e)**

Test-II Reasoning Ability

Directions (Q. 31-3(e): In these questions the symbols #, ©, π, \$ and % are used with different meanings as given below:

- 'A # B' means 'A is smaller than B'
 'A © B' means 'A is greater than B'
 'A π B' means 'A is either smaller than or equal to B'
 'A \$ B' means 'A is either greater than or equal to B'

'A % B' means 'A is neither smaller nor greater than B'
 In each of the following questions, assuming the given statements to be true, find out which of the two conclusions I and II given below them is/are definitely true. Give answer

- (a) if only conclusion I is true.
 (b) if only conclusion II is true.
 (c) if either conclusion I or II is true.

- (d) if neither conclusion I nor II is true.
 (e) if both conclusions I and II are true.

- 31. Statement:** L \$ M % Q © S # T π P
 Conclusions: I. T © L
 II. L © S
- 32. Statement:** W # H π I % C \$ H © S
 Conclusions: I. C \$ W
 II. I © S
- 33. Statement:** W % X © Y π Z © R % L
 Conclusions: I. Z © L
 II. Y # W
- 34. Statement:** A # N % O π T π H # E
 Conclusions: I. E \$ O
 II. H © N
- 35. Statement:** P © V % T # D # M \$ F
 Conclusions: I. M © V
 II. P # F

Directions (Q. 36-40): Study the following information carefully and answer the given questions.

In a certain code language 'score the maximum marks' is written as 'pan cha ga mo', 'marks are less than' is written as 'ta ha cum pan', 'score the highest marks' is written as 'ga cha she pan' and 'less than you' is written as 'ha cum va'.

- 36. What is the code for 'highest'?**
 (a) she (b) cha (c) ha (d) pan
 (e) None of these
- 37. Which of the following can be the code for 'you score maximum'?**
 (a) va mo cha (b) cha ga mo
 (c) mo ga va (d) Either (a) or (c)
 (e) None of these
- 38. 'cum' is the code for**
 (a) less (b) are (c) Either 'less' or 'than'
 (d) marks (e) None of these
- 39. Which of the following is the code for 'marks'?**
 (a) che (b) pan (c) cum (d) ga
 (e) None of these
- 40. 'than score the less' can be coded as**
 (a) cha ga ha cum (b) ha cum ga she
 (c) cha ha ga mo (d) Can't be determined
 (e) None of these

Directions (Q. 41-45): Study the following information carefully and answer the given questions:

A, C, E, I, O, N, P and S are eight persons working in an MNC. They are sitting around a circular table in a meeting but not necessarily in the same order. All of them hold a different post, viz President, MD, GM, CA, HR, Vice President, Chairman and Vice Chairman, but not necessarily in the same order. C sits third to the right of the

Vice President. Only two persons sit between Vice President and S. The GM and the MD are immediate neighbours.

Neither C nor S is a GM or an MD. The GM is not an immediate neighbour of the Vice President. The CA sits third to the right of O, who is not the GM. N sits on the immediate right of the Chairman. The Vice Chairman sits second to the left of A, who is not an immediate neighbour of S. The Vice Chairman is an immediate neighbour of both the HR and the CA. C is not the Chairman. I is not an immediate neighbour of C. E is not an immediate neighbour of the Vice Chairman.

- 41. Who among the following is the Chairman of the company?**
 (a) E (b) A (c) I (d) P
 (e) None of these
- 42. O holds which of the following posts in the company?**
 (a) Chairman (b) HR (c) MD
 (d) Vice Chairman (e) None of these
- 43. How many persons sit between the Chairman and the President?**
 (a) None (b) One (c) Two (d) Three
 (e) None of these
- 44. Which of the following pairs is an immediate neighbour I?**
 (a) Vice Chairman, CA
 (b) Chairman, Vice President
 (c) Chairman, HR
 (d) Vice Chairman, Chairman
 (e) Can't be determined
- 45. Which of the following statements is true?**
 (a) A is the Chairman and sits on the immediate right of N.
 (b) The President and the HR are immediate neighbours of P.
 (c) N is the Vice President and sits second to the left of E.
 (d) None is true
 (e) All are true

Directions (Q. 46-48): Study the following information carefully and answer the given questions.

There are seven friends X, W, Y, V, Z, U and R. All of them want to enjoy a boat trip but there are only two boats. Each boat has a capacity for four persons only. More people are travelling in Boat I than in Boat II.

Z does not want to go in the boat in which Y is travelling unless V is also with them. Neither W nor Y goes with R in the same boat. X always wants to go with Z in Boat I. U can't go with Y

- 46. Which of the following groups travels in Boat I?**
 (a) U, R, Z, Y (b) X, Z, U, R
 (c) V, Y, X, Z (d) W, Y, V

(e) None of these

47. U is travelling with which of the following groups?

- (a) Z, R, Y (b) V, Y, W (c) X, Y, Z (d) X, Z, R
(e) Can't be determined

48. If the last condition is waived off and V is travelling in Boat I then who among the following will go in Boat II?

- (a) X (b) R (c) U (d) Z
(e) None of these

Directions (Q. 49-54): Study the following information carefully to answer the given questions.

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

Input: 70 family 53 parents 77 mother 60 father

Step I: 70 family 53 parents 60 father 77 mother

Step II: 70 family 53 parents 77 mother 60 father

Step III: 53 parents 77 mother 60 father 70 family

Step IV: 77 mother 60 father 70 family 53 parents

Step IV is the last step of the above input as the desired arrangement is obtained. As per the rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input.

Input: 50 rule 98 audi 56 octavia 78 jaguar 85 pascal
81 renault

49. What is the position of '78' in Step IV?

- (a) Eighth from the left (b) Sixth from the right
(c) Second from the right (d) Fifth from the left
(e) None of these

50. Which of the following steps would be the last but one?

- (a) Step III (b) Step V (c) Step VI (d) Step VII
(e) None of these

51. If in Step V '81' is related to '98' and 'renault' is related to 'audi' in certain way. Following the same rule 'octavia' is related to which of the following?

- (a) jaguar (b) 78 (c) rule (d) 98
(e) None of these

52. Which step number is the following output?

98 audi 78 jaguar 81 renault 56 octavia 85 pascal
50 rule

- (a) Step IV (b) Step II (c) Step V (d) Step III
(e) There is no such step

53. How many words/numbers are there between 'renault' and 'rule' in Step IV?

- (a) Two (b) None (c) Four (d) Six
(e) None of these

54. If '61 credit 42 gun 26 just 21 the 92 join 37 now' is Step III of an input, then which of the following would be the input?

- (a) 37 now 61 credit 92 join 42 gun 26 just 21 the
(b) 21 the 37 now 92 join 26 just 42 gun 61 credit
(c) 61 credit 42 gun 21 the 26 just 92 join 37 now
(d) Can't be determined
(e) None of these

Directions (Q. 55-59): Study the following information carefully and answer the given questions.

Eight members L, M, N, O, P, Q, R and S belong to three different families, viz Gujarati, Punjabi and Marathi. They go for weekend outing in three different cars, viz Alto, Nano and Santro. Four out of the eight members are females. Each member of every family travels in a different car. Each car carries at least one male and one female member. Each family has at least two members. L is Marathi and he travels in Santro. O is wife of P and they travel in Alto and Nano respectively. S is son of M, who is wife of R, and they are Punjabi. N is daughter of Q, who is wife of L. N travels in Nano. R does not travel with Q.

55. How many members are there in the Gujarati family?

- (a) Two (b) Three (c) Four
(d) Either (b) or (c) (e) None of these

56. Which of the following groups travels in Alto?

- (a) QSL (b) OPQ (c) QSO (d) SOP
(e) None of these

57. Which of the following groups represents the group of married females?

- (a) OQS (b) MON (c) MNQ (d) NOQ
(e) None of these

58. Which of the following statements is false?

- (a) O belongs to the Marathi family.
(b) M and Q travel in the same car.
(c) R and N travel in Nano.
(d) Only (a) and (b) (e) All are false

59. Which of the following combinations is true?

- (a) P-Female-Gujarati -Alto
(b) N - Female - Marathi - Nano
(c) M - Female - Punjabi Alto
(d) R- Male - Gujarati - Nano
(e) S - Male - Punjabi - Santro

60. The 2009 election was not won by the UPA because of farm loan waivers or the National Rural Employment Guarantee Act (MN REGA).

Which of the following statements substantiates the view expressed in the above statement?

- (a) Great populist sops are not announced in vote-on-account.
(b) The major vote share of the UPA came from the farmers.

- (c) People had become weary of the NDA's "India Shining" campaign and yearned for a change in the composition of the ruling class.
- (d) UPA actually swept all the cities while faring indifferently in the backward BIMARU states where MNREG A should have had the most impact.
- (e) None of these
- 61. The finance minister was afraid of any credit downgrade by international rating agencies. Which of the following inferences cannot be drawn from the above statement! (An inference is something which is not directly stated but can be inferred from the given facts.)**
- (a) This would tarnish the country's image.
 (b) The rupee would go crashing.
 (c) There would be a rise in inflation.
 (d) The voters would give his party a raw deal.
 (e) All the above inferences can be drawn
- 62. The segment of cars using Automated Manual Transmission (AMT) technology has not taken off. Which of the following can be a probable cause(s) of the above phenomenon!**
- (A) There is a price gap of at least a lakh rupees between automatic and manual cars.
 (B) The fuel efficiency in existing automatic cars is 25-30 per cent lower than in manual ones.
 (C) Their maintenance cost is exorbitant.
- (a) Only B (b) Only A (c) Only A and B
 (d) Only B and C (e) All A, B and C
- 63. Sony India has decided to sell off the Vaio brand and laptop business. Which of the following can be a proper course(s) of action?**
- (A) Sony India should put more resources in developing the mobile business, which is the future growth area.
 (B) The employees in laptop business should be moved to mobile division.
 (C) People should sell their Vaio laptops.
- (a) Only A (b) Only B (c) Only A and B
 (d) Only B and C (e) All A, B and C
- 64. An exceptional monsoon will raise food grain production to a record 263.2 million this year. Which of the following substantially weakens the argument given in the above statement?**
- (a) Farm sector growth would be 4.6 per cent compared to 1.9 per cent last year.
 (b) Most of the land in India has proper irrigation facilities.
 (c) A rise in the production of pulses, whose global supplies are limited, will help tame prices.
 (d) India mostly produces cash crops.
 (e) None of these
- 65. The rise of global CEOs who spent their formative years in India is acknowledgement that the country is doing at least some things right. Which of the following assumptions is implicit in the above statement? (An assumption is something supposed or taken for granted.)**
- (a) India has produced a large number of CEOs.
 (b) India is not known for right policies.
 (c) Some of the qualities these leaders possess — humility, modesty and a strong work ethic — were acquired well before they left the territorial frontiers of India.
 (d) The stability of family upbringing is a major advantage Indians have.
 (e) None of these

Test-III Quantitative Aptitude

Directions (Q. 66-70): In every questions one or more equations are given on the basis of which you have to find out about p and q .

Mark answer:

- (a) if $p = q$ (b) if $p > q$ (c) if $q > p$
 (d) if $p \leq q$ and (e) if $p \leq q$
- 66. I. $2p + 5/2 = p + 3$ II. $a - 5/2 = 1$**
- 67. I. $p^2 + 3 = 12$ II. $3q - 5 = 1 + q$**
- 68. I. $7p^2 - 8p + 1 = 0$ II. $\frac{5q}{2} - \frac{3q}{4} = \frac{1}{8}$**
- 69. I. $\frac{p}{2} - \frac{p}{3} = 1$ II. $q^2 + 36 = 12q$**

70. I. $\frac{p}{5} - \frac{2}{7} = 0$ II. $p^2 = 2q - 1$

Directions (Q. 71-75): In the following questions a number series has been given. In this series there is the letter A in place of a number. You have to find out the number in place of 'A' and using this number you have to identify on the basis of the given series, the number that will come in place of question mark (?).

- 71. 168 A 167 151 166 152 165**
 75% of A = ?
 (a) 112.5 (b) 120.0 (c) 23.76 (d) 111.75
 (e) None of these
- 72. 26 52 104 208 A 832 1664**

$$\sqrt{A - 4^2} = ?$$

- (a) 10.0 (b) 20.29 (c) 123.0 (d) 19.62
(e) 20.0

73. $6 \quad 7 \quad 11 \quad 20 \quad 36 \quad 61 \quad A$

$$12\% \text{ of } 2A = ?$$

- (a) 21.60 (b) 23.28 (c) 23.04 (d) 22.56
(e) 23.52

74. $18 \quad 6 \quad A \quad \frac{2}{3} \quad \frac{2}{9} \quad \frac{2}{27} \quad \frac{2}{81}$

$$A \div 2 - 1 = ?$$

- (a) 1 (b) 2 (c) 0 (d) $\frac{1}{3}$

(e) $1\frac{1}{3}$

75. $6 \quad 8.5 \quad 7 \quad 9.5 \quad A \quad 10.5 \quad 9$

$$A^2 \times 2A + 3A = ?$$

- (a) 1485 (b) 3645 (c) 2560 (d) 1048
(e) 4120

76. There is a water tank of capacity 500 litres which is connected with two filling pipes P_1 and P_2 , which can fill the tank in $37\frac{1}{2}$ hours and 60

hours respectively. The rate at which P_2 fills the tanks is less than that of P_1 by what per cent?

- (a) 60% (b) 37.5% (c) 25% (d) 30.5%
(e) None of these

77. 300 apples are distributed equally among a certain number of students. Had there been 10 more students, each student would have received one apple less. Find the number of students.

- (a) 70 (b) 40 (c) 55 (d) 50
(e) None of these

78. In a 30-litre mixture of milk and water, the ratio of milk to water is 7 : 3. How much quantity of water should be added to the mixture to make the ratio of milk to water 1 : 2 ?

- (a) 30 litres (b) 32 litres (c) 33 litres (d) 35 litres
(e) None of these

79. If 3 pumps can empty a tank in 2 days by working 8 hours a day, how many hours a day must 4 pumps work to empty the tank in one day?

- (a) 12 hours (b) 15 hours
(c) 18 hours (d) 9 hours
(e) None of these

80. Anish spends 25% of his salary on house rent, 5% on food, 15% on travel, 10% on clothes, and thus he saves Rs. 22,500. What is Anish's salary?

- (a) Rs. 40000 (b) Rs. 40500
(c) Rs. 45500 (d) Rs. 50000
(e) None of these

81. What is the probability that a card drawn at random from a well-shuffled pack of 52 cards is either a king or a diamond?

- (a) $\frac{11}{52}$ (b) $\frac{4}{13}$ (c) $\frac{3}{13}$ (d) $\frac{13}{52}$

(e) None of these

82. Clock A loses 1 minute a day and clock B gains $1\frac{1}{2}$ minutes a day. If clock B is 30 minutes ahead of clock A, how many days will clock B take to be 45 minutes ahead of clock A?

- (a) 10 (b) 6 (c) 18 (d) 8

(e) None of these

83. Which of the following equations are equivalent?

(A) $2p^2(3p^2 + 5) + 9 - 2p^2(p^2 - 1)$

(B) $(2p^2 + 3)^2$

(C) $(2p^2 - 3)^2$

(D) $4p^4 + 12p^2 + 9$

(a) Only A and B

(b) Only B and C

(c) Only B and D

(d) All except

(e) All excepte

84. A certain tank can be filled by pipes A and B separately in 4 and 5 minutes respectively. Whereas, pipe C can empty it in 3 minutes. How long will it take to fill or empty the $\frac{4}{5}$ th full tank.

It all the three pipes start together?

(a) $1\frac{5}{7}$ minutes to fill (b) $6\frac{6}{7}$ minutes of empty

(c) $1\frac{5}{7}$ minutes to fill (d) $6\frac{6}{7}$ minutes to fill

(e) None of these

85. What will be the value of $16x^2y - 40xy + 25y$, if $x = 2$ and $y = 1$?

- (a) -32 (b) 9 (c) 49 (d) 25

(e) None of these

Directions (Q. 86-90): Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer:

- (a) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
(b) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
(c) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

- (d) if the data even in both the statements I and II together are not sufficient to answer the question.
 (e) if the data in both the statements I and II together are necessary to answer the question.

86. A number is divisible by 3. Find the number.

- I. Square of the number is divided by 9.
 II. 40% of the number is $\frac{2}{5}$ th of that number.

87. What is the ratio of investments of A, B and C?

- I. Total investment is Rs. 12000 in which A's contribution is Rs. 6000.
 II. Ratio of investment of A to B is 3 : 2 and that of B to C is 2 : 1.

88. The marked price of a TV set is Rs. 20,000. At what price a customer buys this TV set?

- I. The shopkeeper allows successive discounts of 25% and 5%.
 II. The shopkeeper allows successive discounts of 20% and Rs. 1750.

89. The average salary of 15 teachers of a school is Rs. 5000 p.m. A group of 4 teachers whose average salary is Rs. 6000 pm leave the school and new teacher joins. What is the average salary of new group of teachers in the school?

- I. Total investments is Rs. 20,000
 II. Ratio of the interests earned is 300 : 331

Direction (Q 91-95) : What should come in place of question mark (?) in the following questions?

91. $\sqrt{24} + \sqrt{96} + \sqrt{216} + \sqrt{384} = 5\sqrt{2} \times ?$
 (a) $6\sqrt{3}$ (b) $4\sqrt{3}$ (c) $2\sqrt{3}$ (d) $5\sqrt{3}$
 (e) $3\sqrt{3}$
92. $189\frac{2}{9} + 189\frac{3}{9} + 189\frac{4}{9} + 189\frac{5}{9} + 189\frac{6}{9} + 189\frac{7}{9} = ?$
 (a) 1138 (b) 1037 (c) 1237 (d) 1238

(e) 1137

93. $\sqrt{1369} \times \sqrt{1444} + \sqrt{?} = 1420$

- (a) 14 (b) 196 (c) 198 (d) 194
 (e) 16

94. $\sqrt{6889} + \sqrt{3721} + \sqrt{1024} - \sqrt{2401} = ?$

- (a) 129 (b) 128 (c) 127 (d) 124
 (e) 123

95. $3001 \times 99 \div 11 - 6001 \times 8 + 401 \times 11 + (303)^2 = ?$

- (a) 76125 (b) 78129 (c) 75000 (d) 75221
 (e) 74532

Direction (Q 96-100) : What approximate value would come in place of question mark (?) in the following questions?

96. $38\% \text{ of } 3976 + (32)^2 - 13\% \text{ of } 8271 + \frac{7}{6} \times 3400 = ?$

- (a) 5427 (b) 5325 (c) 5537 (d) 5612
 (e) 5554

97. $987.67 \times 123.35 \div 9 = ?$

- (a) 13411 (b) 13621 (c) 13489 (d) 13551
 (e) 13721

98. $\sqrt{80} \times \frac{35}{6} \times (21)^2 + 343 = ?$

- (a) 21125 (b) 22981 (c) 20781 (d) 23159
 (e) 21230

99. $4 \times (\sqrt{3} + \sqrt{4})^2 + 6(\sqrt{5} + \sqrt{6})^2 - 3(\sqrt{2} + \sqrt{3})^2 = ?$

- (a) 167 (b) 123 (c) 157 (d) 153
 (e) 149

100. $\frac{331}{30} + \frac{661}{60} + \frac{704}{11} - 35.013 + 36.026 = ?$

- (a) 69 (b) 67 (c) 83 (d) 89
 (e) 85

> ANSWER KEY

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

Hint & Solutions

66. $2p + \frac{5}{2} = p + 3$

or, $p = 3 - \frac{5}{2} = \frac{1}{2}$

II. $q - \frac{5}{2} = 1$

or, $q = 1 + \frac{5}{2} = \frac{7}{2} = 3\frac{1}{2}$

$\therefore q > p$

Therefore, the required answer is option (c).

67. I. $p^2 + 3 = 12$

or, $p^2 = 9$

or, $p = \sqrt{9} = \pm 3$

II. $3q - 5 = 1 + q$

or, $2q = 6$

or, $q = 3$

$\therefore q \geq p$

Therefore, the required option is (e).

68. I. $7p^2 - 8p + 1 = 0$

or, $7p^2 - 7p - p + 1 = 0$

$7p(p-1) - 1(p-1) = 0$

or, $(p-1)(7p-1) = 0$

$\therefore p = 1$ and $\frac{1}{7}$

II. $\frac{5q}{2} - \frac{3q}{4} = \frac{1}{8}$

or, $\frac{5q}{1} - \frac{3q}{2} = \frac{1}{4}$

or, $\frac{10q - 3q}{2} = \frac{1}{4}$

or, $7q = \frac{1}{2}$

or, $q = \frac{1}{14}$

$\therefore p > q$

Therefore, the required answer is option (b).

69. I. $\frac{p}{2} - \frac{p}{3} = 1$

or, $p\left(\frac{1}{2} - \frac{1}{3}\right) = 1$

or, $p\left(\frac{3-2}{6}\right) = 1$

or, $p = 6$

II. $q^2 + 36 = 12q$

or, $q^2 - 12q + 36 = 0$

or, $(q-6)^2 = 0$

or, $q - 6 = 0$

$\therefore q = 6$

$\therefore q = p$

Therefore, the required answer is option (a).

70. I. $\frac{p}{5} - \frac{2}{7} = 0$

or, $\frac{p}{5} = \frac{2}{7}$

or, $p = \frac{10}{7} = 1\frac{3}{7}$

II. $q^2 = 2q - 1$

or, $q^2 - 2q - 1 = 0$

or, $q^2 - 2q + 1 = 0$

or, $(q-1)^2 = 0$

or, $q - 1 = 0$

$\therefore q = 1$

$\therefore p > q$

Therefore, the required answer is option (b).

71. The series is based on the following pattern :

$168 - 18 = 150$

$150 + 17 = 167$

$167 - 16 = 151$

$151 + 15 = 166$

$166 - 14 = 152$

$152 + 13 = 165$

Therefore, the value of A = 150

$\therefore 75\% \text{ of } A = \frac{150 \times 75}{100} = 112.5$

72. The series is based on the following pattern :

$$\begin{aligned} 26 \times 2 &= 52 \\ 52 \times 2 &= 104 \\ 104 \times 2 &= 208 \\ 208 \times 2 &= 416 \\ 416 \times 2 &= 832 \\ 832 \times 2 &= 1664 \end{aligned}$$

Therefore, the value of A is 416

$$\therefore \sqrt{A - (4)^2} = \sqrt{416 - 16} = \sqrt{400} = 20$$

73. The series is based on the following pattern :

$$\begin{aligned} 6 + 1^2 &= 7 \\ 7 + 2^2 &= 11 \\ 11 + 3^2 &= 20 \\ 20 + 4^2 &= 36 \\ 36 + 5^2 &= 61 \\ 61 + 6^2 &= 97 \end{aligned}$$

Therefore, the value of A is 97.

$$\begin{aligned} \therefore 12\% \text{ of } 2A &= \frac{12 \times 2 \times 97}{100} \\ &= \frac{2328}{100} = 23.28 \end{aligned}$$

74. The series is based on the following pattern :

$$\begin{aligned} 18 \times \frac{1}{3} &= 6 \\ 6 \times \frac{1}{3} &= 2 \\ 2 \times \frac{1}{3} &= \frac{2}{3} \\ \frac{2}{3} \times \frac{1}{3} &= \frac{2}{9} \\ \frac{2}{9} \times \frac{1}{3} &= \frac{2}{27} \\ \frac{2}{27} \times \frac{1}{3} &= \frac{2}{81} \end{aligned}$$

Therefore, the value of A is 2.

$$\therefore A + 2 - 1 = 2 + 2 - 1 = 1 - 1 = 0$$

75. The series is based on the following pattern :

$$\begin{aligned} 6 + 2.5 &= 8.5 \\ 8.5 - 1.5 &= 7 \\ 7 + 2.5 &= 9.5 \\ 9.5 - 1.5 &= 8 \\ 8 + 2.5 &= 10.5 \\ 10.5 - 1.5 &= 9 \end{aligned}$$

Therefore, the value of A is 8.

$$\begin{aligned} \therefore A^2 \times 2A + 3A &= 2A^3 + 3A \\ &= A(2A^2 + 3) = 8(2 \times 64 + 3) \end{aligned}$$

$$= 8(128 + 3) = 8 \times 131 = 1048$$

76. The rate of filling water by the two pipes are as follows :

$$\text{Rate of } P_1 = \frac{500 \times 2}{75}$$

$$= 13\frac{1}{3} \text{ litres per hour}$$

$$\text{Now, Rate of Filling by } P_2 = \frac{500}{60} = 8\frac{1}{3}$$

The rate at which P_2 fills the tank is less than that of P_1 by

$$\frac{13\frac{1}{3} - 8\frac{1}{3}}{13\frac{1}{3}} \times 100 = \frac{15}{40} \times 100 = 37.5\%$$

77. Let the number of students be x .

$$\text{Then, } \frac{300}{x} - \frac{300}{x+10} = 1$$

$$\text{or, } \frac{300x + 3000 - 300x}{x(x+10)} = 1$$

$$\text{or, } x^2 + 10x - 3000 = 0$$

$$\text{or, } x^2 - 60x - 50x - 3000 = 0$$

$$\text{or, } x(x+60) - 50(x+60) = 0$$

$$\text{or, } (x-50)(x+60) = 0$$

$$\text{or, } (x-50) = 0$$

$$\therefore x = 50 \text{ and } (x+60) = 0$$

$$\therefore x = -60$$

(neglect the negative value)

78. Let the water be $3x$ and milk be $7x$ in the mixture.

Then,

$$7x + 3x = 30$$

$$\therefore x = 3$$

Again, let x litre be added,

Milk : water

$$21 \quad 9$$

$$\text{Now, } \frac{21}{9+x} = \frac{1}{2}$$

$$\text{or, } 9+x = 42$$

$$\text{or, } x = 33 \text{ litres}$$

79. Let the pumps the P_1 and P_2 ,

the days be D_1 and D_2

and the hours be h_1 and h_2

$$\text{Then, } P_1 D_1 h_1 = P_2 D_2 h_2$$

$$\text{or, } 3 \times 8 \times 2 = 4 \times 1 \times h_2$$

$$\therefore h_2 = \frac{3 \times 8 \times 2}{4 \times 1} = 12 \text{ hours}$$

80. Let Anish's salary be x .

$$\text{Then, Anish's spend on house rent} = \frac{x \times 25}{100}$$

$$= \text{Rs. } \frac{x}{4}$$

$$\text{food} = \frac{x \times 5}{100} = \text{Rs. } \frac{x}{20}$$

$$\text{travel} = \frac{x \times 15}{100} = \text{Rs. } \frac{3x}{20}$$

$$\text{clothe} = \frac{x \times 10}{100} = \text{Rs. } \frac{x}{10}$$

Remaining amount

$$= \left[x - \left(\frac{x}{4} + \frac{x}{20} + \frac{3x}{20} + \frac{x}{10} \right) \right] = 22500$$

$$\text{or, } \frac{20x - (5x + x + 3x + 2x)}{20} = 22500$$

$$\therefore x = \frac{20x - (5x + x + 3x + 2x)}{20} = \text{Rs. } 50000$$

81. Let E and F be the event of getting diamond and a king respectively.

Then, $E \cap F$ is the event of getting a king of diamond.

$$\therefore n(E) = 13, n(F) = 4$$

$$\text{and } n(E \cap F) = 1$$

$$\text{So, } P(E) = \frac{13}{52} = \frac{1}{4}, P(F) = \frac{4}{52} = \frac{1}{13}$$

$$\text{and } P(E \cap F) = \frac{1}{52}$$

$\therefore P$ (a diamond or king)

$$= \frac{1}{4} + \frac{1}{13} - \frac{1}{52} \\ = \frac{13 + 4 - 1}{52} = \frac{16}{52} = \frac{4}{13}$$

82. According to question,

Clock B gains per hour to

$$A = \left(\frac{1}{24} + \frac{1}{16} \right) \\ = \frac{2+3}{48} = \frac{5}{48} \text{ min}$$

Now,

Clock B gains $\frac{5}{48}$ min in an hour

$$\therefore \text{Clock B gains 15 min in } \frac{48}{5} \times 15 \text{ hour} \\ = \frac{48 \times 15}{5 \times 24} \text{ days} = 6 \text{ days.}$$

$$\mathbf{83.} = 2p^2(3p^2 + 5) + 9 - 2p^2(p^2 - 1)$$

$$= 6p^4 + 10p^2 + 9 - 2p^4 + 2p^2$$

$$= 4p^2 + 12p^2 + 9 = (2p^2 + 3)^2$$

$$(b) = (2p^2 + 3)^2$$

$$(c) = (2p^2 - 3)^2$$

$$(d) = 4p^2 + 12p^2 + 9$$

$$= (2p^2 + 3)^2$$

$$\therefore (a) = (b) = (d)$$

Therefore, the required answer is option (e).

$$\mathbf{84.} \text{ A's work in one minute} = \frac{1}{4}$$

$$\text{B's work in one minute} = \frac{1}{5}$$

$$\text{C's work in one minute} = \frac{1}{3}$$

$$\therefore (A + B + C)'s \text{ work in minute} \\ = \left(\frac{1}{4} + \frac{1}{5} + \frac{1}{3} \right)$$

$$= \frac{15 + 12 + 20}{60} = \frac{7}{60}$$

$$\therefore \text{Time taken to fill } 1 - \frac{4}{5}$$

$$\text{i.e., } \frac{1}{5} \text{ part of tank} = \frac{60}{7} \times \frac{1}{5} = \frac{12}{7} = 1\frac{5}{7} \text{ min}$$

85. Given expression = $16x^2y - 40xy + 25y$

$$= 16 \times 2^2 \times 1 - 40 \times 2 \times 1 + 25 \times 1$$

$$= 64 - 80 + 25 = 9$$

86. If a number is divisible by 3 it can be written as $3x$ square of the number = $(3x)^2 = 9x^2$

Hence square of the number is divisible by 9.

Thus, statement I does not yield any additional information.

$$40\% \text{ of } x = \frac{40}{100}(3x) = \frac{2}{5}(3x)$$

Thus, statement II too does not given any additional information.

We can also see that even both statements I and II together can't give the solution.

$$\mathbf{91.} \sqrt{24} + \sqrt{96} + \sqrt{216} + \sqrt{384} = 5\sqrt{2} \times ?$$

$$\text{or, } \sqrt{6 \times 4} + \sqrt{6 \times 16} + \sqrt{6 \times 36} + \sqrt{6 \times 64} = 5\sqrt{2} \times ?$$

$$\text{or, } 2\sqrt{6} + 4\sqrt{6} + 6\sqrt{6} + 8\sqrt{6} = 5\sqrt{2} \times ?$$

$$\text{or, } \sqrt{6}(2 + 4 + 6 + 8) = 5\sqrt{2} \times ?$$

$$\therefore ? = \frac{20\sqrt{6}}{5\sqrt{2}} = 4\sqrt{3}$$

$$\mathbf{92.} ? = 189 \frac{2}{9} + 189 \frac{3}{9} + 189 \frac{4}{9} + 189 \frac{5}{9} + 189 \frac{6}{9} + 189 \frac{7}{9}$$

$$= (189 \times 6) + \left(\frac{2}{9} + \frac{3}{9} + \frac{4}{9} + \frac{5}{9} + \frac{6}{9} + \frac{7}{9} \right)$$

$$= 1134 + \frac{2+3+4+5+6+7}{9} = 1134 + \frac{27}{9}$$

$$= 1134 + 3 = 1137$$

$$\mathbf{93.} \sqrt{1369} \times \sqrt{1444} + \sqrt{?} = 1420$$

$$\text{or, } \sqrt{37^2} \times \sqrt{(38)^2} + \sqrt{?} = 1420$$

$$\text{or, } 37 \times 38 + \sqrt{?} = 1420$$

$$\text{or, } 1406 + \sqrt{?} = 1420$$

$$\text{or, } \sqrt{?} = 1420 - 1406 = 14$$

$$\therefore ? = 196$$

$$\mathbf{94.} \sqrt{6889} + \sqrt{3721} + \sqrt{1024} - \sqrt{2401} = ?$$

$$\text{or, } ? = \sqrt{(83)^2} + \sqrt{(61)^2} + \sqrt{(32)^2} - \sqrt{(49)^2}$$

$$= 83 + 61 + 32 - 49 = 127$$

$$\mathbf{95.} ? = 3976 \times \frac{38}{100} + 1024 - 8271 \times \frac{13}{100} + \frac{7}{6} \times 3400$$

$$= 1510.88 + 1024 - 1075.23 + 3966.66$$

$$= 5426.31 \approx 5427$$

$$\mathbf{97.} \frac{987 \times 123}{9} = 13489$$

$$\mathbf{98.} ? = \sqrt{80} \times \frac{35}{6} \times (21)^2 + 343$$

$$= \sqrt{16 \times 5} \times \frac{35}{6} \times 441 + 343$$

$$= 4\sqrt{5} \times \frac{35}{6} \times 441 + 343$$

$$= 2\sqrt{5} \times 35 \times 147 + 343$$

$$= 2 \times 2.2 \times 35 \times 147 \times 343 = 22981$$

$$99. ? = 4(3 + 4 + \sqrt[2]{12}) + 6(5 + 6 + \sqrt[2]{30}) - 3(2 + 3 + \sqrt[2]{6})$$

$$= 4(7 + 2\sqrt{12}) + 6(11 + 2\sqrt{30}) - 3(5 + 2\sqrt{6})$$

$$= 28 + 8\sqrt{12} + 66 + 12\sqrt{30} - 15 - 6\sqrt{6}$$

$$= (28 + 66 - 15) + (8\sqrt{12} + 12\sqrt{30} - 6\sqrt{6})$$

$$= 79 + (8\sqrt{4 \times 3} + 12\sqrt{30} - 6\sqrt{6})$$

$$= 79 + 16\sqrt{3} + 12\sqrt{30} - 6\sqrt{6}$$

$$= 79 + 16 \times 1.7 + 12 \times 5.4 - 6 \times 2.4$$

$$= 79 + 27.2 + 64.8 - 14.4 = 156.6 = 157$$

$$100. ? = \frac{331}{30} + \frac{661}{60} + \frac{704}{11} - 35.013 + 36.026$$

$$= 11 + 11 + 64 - 1.013 = 86 - 1 \approx 85$$