

Test-I English Language

Directions (Q. 1-9): Read the passage carefully and answer the questions given below it.

The state-wise child sex ratio (number of females per 1000 males in 0-6 years age group) in India during 2001-11 declined except in Himachal Pradesh, Punjab, Haryana, Jharkhand, Gujarat and Tamil Nadu. Interestingly, these are the same states that had recorded a significant fall in child sex ratio during 1991-2001.

Adverse child sex ratio can have many implications. First, in a growing economy, the need for a labour force would be a requirement. Females, like capital goods, not only directly provide the force but also bear children who are the future labour force. Second, 'missing women' imply that the proportion of single men, say above 50 years, would increase which according to United Nations Fund for Population Activities UNFPA(201(b), would rise from 1.1 per cent in 2010 to 10 per cent in 2060. There are costs involved with prolonged bachelorhood. There is also a fear that scarcity of brides may generate new waves of female migration from neighbouring countries with different cultures and customs and even such migration may not be able to meet the need. In the absence of such migration, cases of human trafficking, kidnapping, forced marriages and other related crimes can increase. All these would imply a cost to the state and society.

Adverse child sex ratio could be a transitory phase in a growing economy like China, India or Korea, as evidenced by empirical studies in view of technological advancement in pre-natal sex selection tests, which are painless and affordable, prompting couples to tailor-make the composition of their families. The trend could have a geographical pattern too and the preference for sons could be higher in rural areas because of the sway of traditional institutions as well as in some other regions which are rooted in longstanding local institutions, according to UNFPA (201(b). Gender discrimination has a strong economic reasoning and reflects the generally held perception that girl constitutes impoverishment and boy constitutes enrichment. It is with reference to costs and benefits, including the institution of marriage and dowry, that daughters appear so expensive.

Sekher and Hatti (2010), undertaking an empirical study in Karnataka, discuss the origin of dowry in their village of study and argue that the rapid decline of fertility unaccompanied by changes in cultural values has resulted in a deliberate attempt to get 'rid of girls' - "a conclusion that can be applicable across India." Research shows that improvements in educational attainment generally lead to a reduced preference for sons. But that could be a slower process.

Central and select State governments have been making concerted efforts since 1996, seemingly to no avail, mainly through conditional cash transfer (CCT), to stem the trend of adverse sex ratio through schemes like Dhanlaxmi, BhagyaJaxmi, Beti Anmol, Ladli, Nanhi Chhaan, and so on. The main criticism against these schemes is that the amount provided by the Government is far less than what is required to sustain and marry off a female child.

So, is the situation hopeless now? Not as yet but given that this epidemic is prevalent across the States, and the trend unabated, the Indian girl child should be considered a near-endangered species both inside and outside the womb and treated as 'our national asset' from the time of conception. Agencies and individuals who terminate female life before and after birth should attract severe punishment for damaging the national asset.

To change the mindset towards the female child, including the menace of dowry and expansive marriages, there may be need for active involvement of Panchayati Raj institutions; local social, religious and political leaders; media and the entertainment industry; and medical professionals and associations.

In addition, until the mindset changes, there may be need to collectively address the issue of cost that an individual family cannot face and results in adverse child sex ratio.

The setting up of the National Girl Child Investment Fund (NGCIF) financed by long-term Government bonds, venture capital, agencies and tax-deductible donations, would be justified. The NGCIF could extend substantial financial support to the family of the girl child from conception to cradle and then to college, and even to meet marriage expenses.

Hopefully, with such a liberal funding arrangement, the number of females in the country will increase, get educated and contribute to NGCIF as well as the economy.

1. What has been the effect of the conditional cash transfer schemes launched to stem the trend of adverse sex ratio?

- The scheme proved a great success and the child sex ratio improved significantly in the States where this scheme was launched.
- The Central and State govt have made serious efforts through the schemes, but to no avail.
- Nothing specific about the trend of child sex ratio has been mentioned in the given passage.
- The major part of the fund provided by the govt is siphoned off by the middlemen leaving the scheme a failure.
- None of these

- 2. What would be the expected implications) of adverse child sex ratio?**
- It would result into reduced supply of future labour force.
 - The number of single men above fifty years would increase significantly.
 - There would be immigration of females from neighbouring countries with different cultures
 - The case of human trafficking, forced marriages and other related crimes would increase.
 - All the above
- 3. Find the correct statement(s) on the basis of the given passage.**
- (A)The sex ratio is the number of females per thousand males in 0-6 years age group.
 (B)There are only six states in India which have recorded a significant fall in child sex ratio during 2001-11.
 (C)Haryana has recorded an improvement in child sex ratio as per the latest census,
- Only (A)
 - Only (B)
 - Only (C)
 - Only (A) and (B)
 - Only (B) and (C)
- 4. How can the general mindset towards the female child be changed?**
- (A)By providing extrajob opportunity in govt services
 (B)By educating people about the adverse effects of the reduced number of female children
 (C)By giving extra love and affection to female children
- Only (A)
 - Only (B)
 - Only (C)
 - All (A), (B) and (C)
 - Only (A) and (B)
- 5. What suggestion(s) has/have been made by the author to improve the overall condition of female child in India?**
- The media and the entertainment industry should come forward to bring about radical change in the mindset towards girl child.
 - The issue of cost that an individual family cannot face should be addressed collectively.
 - To meet the future expenses such as marriage, cost of higher education etc, the National Girl Child Investment Fund (NGCIF) should be set up
 - The NGCIF should be financed by long-term govt bonds, venture capital etc.
 - All the above
- 6. What is/are the reasons) of gender discrimination? Give your answer in the context of the given passage.**
- Only boys can earn money for the "family.
 - Boys remain with their parents all along their lives.
 - It is a generally held perception that girls constitute impoverishment.
 - Girls are of no use for the family.
 - All the above
- 7. What, according to UNFPA (201(b), is/are correct?**
- (A)People prefer son to daughter in rural areas because of longstanding traditional institutions.
 (B)The proportion of single men, say above fifty years, would increase up to ten per cent in coming" fifty years.
 (C)Punjab, Haryana and such other states where child sex ratio has improved, have quit pre-natal sexselection tests.
- Only (A) and (C)
 - Only (B) and (C)
 - Only (C)
 - Only (A) and (B)
 - All (A), (B) and (C)
- 8. What is the impact of improvement in educational attainment as far as preference for sons is concerned Give your answer in the context of the passage.**
- Educated people also discriminate between boys and girls.
 - Educational attainment leads to reduced preference for son, albeit at a slower pace.
 - Educational attainment is no guarantee of change' mindset towards son.
 - Educational attainment is related to govt jobs. It has nothing to do with the preference for boys or girls
 - None of these
- 9. What has/have been suggested by the author to improve the declining trend of child sex ratio?**
- (A)The agencies or individuals responsible for termination of female life before and after birth should attract severe punishment for damaging the national asset.
 (B)The girl child should be treated as our national asset from the time of conception.
 (C)The Indian girl child should be considered a endangered species both inside and outside: .. womb.
- Only (A) and (B)
 - Only (B) and (C)
 - All (A), (B) and (C)
 - Only (A)
 - Only (B)

Directions (Q.10-1(b): 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 the context of the sentence. Find out the word, which wrongly spelt or inappropriate if there is any. The letter that word is the answer. If all the words, which are printed bold, are correctly spelt and appropriate in the context of the sentence, mark (e) as the answer ie All correct.

10. We plan to complete the exhaustive (a)/ performance (b)/ review (c)/ undertook (d)/ by us by next week. All correct (e)
11. Home loan borrowers (a)/will be definitely (b)/ affected (c)/ since banks have raised their lending (d)/ rates of interest. All correct (e)
12. The Finance Minister has impressed (a)/ satisfaction (b)/ over the progress (c)/ made by regional (d)/ rural banks. All correct (e)
13. If they want to maintain (a)/their current rate of expansion (b)/ they have to consider (c)/ these parameters (d)/. All correct (e)
14. India's overall (a)/ trade deficit (b)/ continues (c)/ to be a major source of concern for analysts (d)/All correct (e)
15. After several (a)/ rounds of discussions (b)/ the Manager assented (c)/ to our proposal (d)/ All correct (e)

Directions (Q. 16-20): Rearrange the following six sentences (A), (B), (C), (D), (e) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

- (A) No doubt, a universal language may help in the cultural unification of the people of the world and remove misunderstanding that grows out of inability to communicate effectively, but the practical difficulty is to find out such a language.
- (B) Since language is a great medium of communication, the assumption has been made that if the people of the world have the same language it may help a great deal removing the culture barriers and bring the people of the world nearer to each other.
- (C) As yet no universal single language has been agreed upon and consequently the linguistic differences continue.
- (D) Not only that, people living in the same territory use different languages or speak different dialects.
- (E) The people of the different parts of the world speak different languages.
- (F) These differences in the language of the people of the world have served to limit inter-group communication and perpetuate social isolation.
16. Which of the following should be the FIRST sentence after rearrangement?
(a) A (b) B (c) D (d) E (e) F
17. Which of the following should be the SECOND sentence after rearrangement?
(a) B (b) D (c) A (d) C (e) E
18. Which of the following should be the THIRD sentence after rearrangement?
(a) C (b) D (c) B (d) A (e) F

19. Which of the following should be the LAST (SIXTH) sentence after rearrangement?
(a) D (b) B (c) C (d) F (e) A
20. Which of the following should be the FOURTH sentence after rearrangement?
(a) B (b) F (c) E (d) D (e) C

Directions (Q. 21-30): 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.

In the real world, not all men want to be "breadwinners", just like nor all men want to be Violent. or to have power (21) women. What men do want, (22). is to feel needed. and wanted. and useful. and loved. They aren't alone III this -it is one of the most basic human (23) and for too long we have been telling men the only way they can be useful is by (24) home money to a doting wife and kids. or by dying in a war. It was an oppressive, constricting message 50 years ago. and It is doubly oppressive now that society has (25) on and even wars are being fought by robots who @ no widows behind.

The big secret about the golden age of "male providers" is that it (27) existed First, women have always worked. Second, and just as importantly, there have always (28) men who were too poor, too queer. too sensitive, too disabled. too compassionate or simply too clever to submit to whatever model of "masculinity" society relied upon to keep its wars fought and its factories staffed "Traditional (29)" like "traditional femininity", is a form of social control.

We still don't have any positive models for postpatriachai masculinity, and in this age of (30) and uncertainty, we need them more than ever.

21. (a) of (b) over (c) for (d) in
(e) within
22. (a) when (b) nonetheless
(c) notwithstanding (d) however
(e) why
23. (a) instincts (b) wishes
(c) requirements (d) body
(e) conditions
24. (a) generating (b) creating
(c) bringing (d) arranging
(e) spending
25. (a) came (b) called (c) taken (d) went
(e) moved
26. (a) quit (b) leave (c) keep (d) turn
(e) uphold
27. (a) never (b) moreover
(c) whatsoever (d) ever
(e) all

28. (a) be (b) being (c) a (d) been
(e) mostly
29. (a) civilisation (d) custom
(c) system (d) Family
30. (a) hope (b) destruction
(c) desperation (d) disruption
(e) science

Test-II Reasoning Ability

Directions (Q. 31-36): Study the following information carefully and answer the given questions.

A, D, F, H, J, I and L are seven employees in an organisation, who are learning distance courses in different institutes, viz SMU, PTU and IGNOU. There are three girls among these seven students. Each of the girls studies in the three different institutes. Two of the seven students study Accounts, two study Computer Science and one each studies MCA, Finance and Textile Designing.

F studies in the same institute as A, who studies Textile Designing in PTU. No girl studies Finance or Textile Designing. J studies Accounts in SMU and his brother I studies MCA in IGNOU. H studies Finance in the same institute as D. Neither F nor L studies Accounts. The girl who studies Accounts does not study in IGNOU.

31. Which of the following pairs of students study Computer Science?
(a) D, A (b) L, A (c) F, L (d) H, F
(e) None of these
32. What is the field of study of F?
(a) Accounts (b) MCA
(c) Finance (d) Computer Science
(e) None of these
33. Which of the following groups represents girls?
(a) H, D, I (b) L, D, A (c) D, L, F (d) F, A, J
(e) None of these
34. In which of the following institutes do three employees study?
(a) IGNOU (b) SMU or PTU
(c) SMU (d) PTU
(e) None of these
35. In which of the following institutes does D study?
(a) SMU (b) PTU (c) IGNOU
(d) Can't be determined (e) None of these
36. Which of the following combinations is not true?
(a) L - Male - IGNOU - Computer Science
(b) A-Male-PTU-MCA
(c) Either (a) or (b)
(d) Both (a) and (b)
(e) None of these

Directions (Q. 37-38): Study the following information carefully and answer the given questions.

Jay starts his van from point X and covers a distance of 10 km towards west, then he turn norths and covers a distance of 17 km. Again, he takes a right turn and covers 25 km. Now he covers 6 km, after taking a left turn. At last he takes a left turn and covers 15 km and stops at point Z.

37. Towards which direction was the van running before stopping at point Z?
(a) North (b) East (c) West (d) South
(e) None of these
38. How far is Jay from point X?
(a) 23 km (b) 25 km (c) 17 km (d) 50 km
(e) None of these
39. In a queue of children, A is fifth from the left and Z is sixth from the right. When they interchange their positions among themselves, A becomes thirteenth from the left. Then, what will be the position of Z from right?
(a) 18th (b) 14th (c) 13th (d) 20th
(e) None of these
40. In the following number sequence, how many such even numbers are there each of which is exactly divisible by its immediate preceding number but not exactly divisible by its immediate succeeding number?
4 9 5 2 6 7 2 8 3 5 8 9 3 9 4 3 6 5 3 9 6 2
(a) None (b) One (c) Two (d) Three
(e) None of these

Directions (Q. 41-45): 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 : 25 11 ice cage 12 it redact tacit 32 55

Step I : it 55 25 11 ice cage 12 redact tacit 32

Step II : ice 11 it 55 25 cage 12 redact tacit 32

Step III : cage 12 ice 11 it 55 25 redact tacit 32

Step IV : tacit 32 cage 12 ice 11 it 55 25 redact

Step V : redact 25 tacit 32 cage 12 ice 11 it 55

Step V is the last step of the above input. As per the rules in the above steps, find out in each of the following questions the steps for the input given below:

Input: forsake 36 ebullience page 89 10 quack 42 amicable 5621 redact

41. Which of the following steps would be the last step but one?
 (a) III (b) V (c) VI (d) IV
 (e) None of these
42. If in Step IV "42" is related to 'page' and 'redact' is related to '10' in a certain way. Following the same way, 'quack' is related to which of the following?
 (a) 89 (b) amicable (c) 36
 (d) ebullience (e) None of these
43. What is the position of 'forsake' in Step III?
 (a) Sixth from the left (b) Eighth from the right
 (c) Sixth from the right (d) Fifth from the left
 (e) None of these
44. Which of the following will be Step V?
 (a) ebullience 36 amicable 89 forsake 42 redact 21 quack 56 page 10
 (b) amicable 89 forsake 42 redact 21 page 10 36 quack 56 ebullience
 (c) amicable 89 forsake 42 redact 21 quack 56 page 10 36 ebullience
 (d) Can't be determined
 (e) None of these
45. How many steps will be required to complete the rearrangement?
 (a) Four (b) Five (c) Seven (d) Six
 (e) None of these

Directions (Q. 46-50): In each question below are given three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows from the given statements, disregarding commonly known facts. Give answer

- (a) if only conclusion I follows.
 (b) if only conclusion II follows.
 (c) if either conclusion I or II follows.
 (d) if neither conclusion I nor II follows.
 (e) if both conclusions I and II follow.
46. **Statements :** Some schools are colleges.
 Some colleges are hostels.
 No hostel is an institute.
Conclusions : I. All institutes being colleges is a possibility.
 II. No institute is a hostel.
47. **Statements :** All nails are hammers.
 All hammers are needles.
 Some needles are threads.
Conclusions : I. At least some threads are hammers.
 II. All hammers being nails is a possibility.

48. **Statements :** Some stones are shells.
 All shells are boxes.
 All boxes are pearls.
Conclusions : I. Some shells are pearls.
 II. Some stones are boxes.

(49-50):

Statements : All chains are bangles.
 Some bangles are pendants.
 No pendant is a ring.

49. **Conclusions :** I. Some chains are pendants.
 II. No chain is a bangle.
50. **Conclusions :** I. Some rings being pendants is a possibility.
 III. Some bangles are chains.
51. If $R < Q$ and $V \leq Q$ are definitely true then which of the following symbols should be placed in the blank spaces respectively?
 $K > R _ C = Q \geq A = M _ V$
 (a) \leq, \geq (b) $<, \geq$ (c) $\leq, =$ (d) $>, \geq$
 (e) None of these
52. Which of the following expressions is true if the given expression is true?
 $L \geq N = J < P \leq S > T$
 (a) $S > J$ (b) $L > P$ (c) $T < J$ (d) $P \geq N$
 (e) None of these
53. Which of the following symbols should be placed in the blank spaces respectively in order to complete the given expression in such a manner that makes the expression $H \geq K$ and $G > J$ definitely true?
 $K _ J _ I _ H _ G$
 (a) $<, =, \leq, <$ (b) $\leq, \leq, =, >$ (c) $\leq, =, \leq, <$ (d) $=, <, <, =$
 (e) None of these
54. Which of the following expressions is false if the given expression is true?
 $T \leq S < R = Q > P \geq U$
 (a) $Q > T$ (b) $R > U$ (c) $S = Q$ (d) $P < R$
 (e) None of these
55. What will come in place of question mark (?) to make the expressions $S < Z$ as well as $R \geq A$ definitely true?
 $Z > A = N ? S \leq P \leq R$
 (a) $>$ (b) \leq (c) $<$ (d) $=$
 (e) None of these

Directions (Q. 56-60): Study the following information carefully and answer the given questions.

In a certain code language 'speak the truth' is written as 'ke la ta', 'always seek knowledge' is written as 'bi ti na', 'knowledge is truth' is written as 'ti ta si' and 'never seek violence' is written as 'li bi za'.

- 56. Which of the following codes stands for 'always'?**
 (a) ti (b) na (c) bi (d) ke
 (e) None of these
- 57. What does the code 'ta' stand for?**
 (a) truth (b) the (c) speak
 (d) the or speak (e) None of these
- 58. Which of the following is the code for 'is'?**
 (a) ta (b) bi (c) si (d) ti
 (e) None of these
- 59. Which of the following can be a code for 'violence is always seek'?**
 (a) si na bi ti (b) zalibina
 (c) binataza (d) Can't be determined
 (e) None of these
- 60. 'ke la li za' is the code for which of the following?**
 (a) knowledge is always speak
 (b) the violence is truth
 (c) never speak the violence
 (d) Can't be determined
 (e) None of these
- 61. India's neighbouring countries have seen a surge in their imports of the metal. This gold is then being carried across into India by smugglers.**
Which of the following inferences can best be drawn from the above statements?
 (a) There is duty differential between India and its neighbouring countries.
 (b) The tough restrictions on the metal's imports could 'be eased.
 (c) India has a high current account deficit.
 (d) There has been a sharp depreciation of the rupee.
 (e) None of these
- 62. The Competition Commission of India (CCI) has found Coal India (CIL) guilty of abusing its monopoly against power producers.**
Which of the following courses of action should best be taken?
 (a) A coal regulator should be formed.
 (b) CIL should be asked to appoint an internal audit committee.
 (c) The coal sector should be restructured by introducing more players.
 (d) A public interest litigation (PIL) should be filed against CIL.
 (e) None of these
- 63. India is 9th in a global nation brand study done by Brand Finance, a leading brand valuation company, ahead of countries like Australia, Singapore or Switzerland. Its brand value has even risen by 10 per cent between 2012 and 2013.**
Which of the following statements substantiates the fact expressed in the above statement?
 (a) Most of the start-ups do not have the critical mass to make an impact.
 (b) The government has done few road shows.
 (c) Foreign investors have problems with the country's administration.
 (d) India's biggest industrialists are investing in other markets.
 (e) None of these
- 64. Travellers should generally be careful about booking a hotel at the time that a big convention is in town.**
Which of the following is the most plausible reason for exercising this caution?
 (a) Hotels boost rates when conventions are going on in town.
 (b) Terrorist threats are likely at the time of conventions.
 (c) Conventions are a breeding ground for swindlers of all types.
 (d) If you go to a town where a convention is going on, you are most likely to spend all your time attending the convention.
 (e) None of these
- 65. It's no secret that in America, the wealthy have a reputation for getting away with murder — both literal and metaphorical — provided they pay up.**
Which of the following assumptions is implicit in above statement? (An assumption is somet'n supposed or taken for granted.)
 (a) Murders have become very common in America.
 (b) It is important to pay in America before you commit crime.
 (c) Money rules the roost in America.
 (d) Murder does not have a literal meaning.
 (e) None of these

Test-III Quantitative Aptitude

Directions (Q. 66-70): Each question below is followed by two statements A and B. You are to determine whether the data given in the statement is sufficient for answering the question. You should use the data and your knowledge of

Mathematics to choose between the possible answers. Read both the statements and give answer

- (a) if the statement A alone is sufficient to answer question, but the statement B alone is not sufficient.
- (b) if the statement B alone is sufficient to answer the question, but the statement A alone is not sufficient.
- (c) if both statements A and B together are needed to answer the question.
- (d) if either the statement A alone or the statement B alone is sufficient to answer the question.
- (e) if you cannot get the answer from the statement A and B together, but need even more data.

66. What is the rate of interest (pepa) on an amount of Rs 6000 deposited in a bank?

- A. The simple interest for four years is Rs 2,400.
- B. The difference between the simple interest and compound interest is Rs 384.6.

67. What is the number ?

- A. 75% of that number is three-fourths of that number.
- B. Three-fourths of that number is less by 34 of that number.

68. The ages of Sakshi and Sanchit are in the ratio 7 : 6. What is the age of Sanchit ?

- A. The ages of Sakshi and Smita are in the ratio of 8 : 5.
- B. After 5 years the ratio of Smita's and Sanya's ages will be 3 : 2.

69. Is B an odd number?

- A. B multiplied by an odd number is equal to an even number.
- B. B is divisible by 2.

70. What is the salary of D, in a group of A, B, C, D, E and F whose average salary is Rs 50,568?

- A. Total of the salaries of A and F is Rs 78,980.
- B. Total of the salaries of B and C is Rs 54,665.

Directions (Q. 71-75): What should come in place of question mark (?) in the following number series?

71. 81 512 2401 7776 15625 16384 ?

- (a) 2187 (b) 19683 (c) 729 (d) 512
(e) 6561

72. 8 64 216 512 1000 1728 ?

- (a) 4096 (b) 2744 (c) 3375 (d) 2197
(e) 4913

73. 3 4 10 33 136 685 ?

- (a) 3430 (b) 4802 (c) 5145 (d) 4116
(e) 5488

74. 6 12 18 40.5 121.5 455.625 ?

- (a) 2050.1125 (b) 2050.2125
(c) 2050.3125 (d) 2050.4125
(e) 2050.5125

75. 4 18 48 100 180 294 ?

- (a) 448 (b) 424 (c) 436 (d) 460
(e) 412

Directions (Q. 76-80): What should come in place of question mark (?) in the following questions?

76. $(12)^{20} \times (12)^5 = ?$

- (a) $(12)^{100}$ (b) $(12)^4$ (c) $(12)^{25}$ (d) $(12)^{15}$
(e) none of these

77. $34.667 - 15.597 - 8.491 - 0.548 = ?$

- (a) 14.403 (b) 10.031 (c) 18.301 (d) 21.043
(e) None of these

78. $[(140)^2 \div 70 \times 16] \div 8 = 14 \times ?$

- (a) 38 (b) 22 (c) 55 (d) 40
(e) None of these

79. $456 + 24 \times 0.75 - 12 = ?$

- (a) 462 (b) 672 (c) 348 (d) 624
(e) None of these

80. $\sqrt{\sqrt{17956} + \sqrt{24025}} = ?$

- (a) 256 (b) 289 (c) 155 (d) 19
(e) None of these

Directions (Q. 81-85): What approximate value should come in place of the question mark (?) in the following questions?

81. $724.998 \div 24.048 \div 14.954 = ?$

- (a) 8 (b) 13 (c) 2 (d) 10 (e) 16

82. $(848.999 + 274.052) \div 3.0054 = ?$

- (a) 940 (b) 836 (c) 184 (d) 298
(e) 374

83. $\sqrt[3]{84900} = ?$

- (a) 56 (b) 44 (c) 67 (d) 33 (e) 21

84. $18.5\% \text{ of } 425 + 16.2\% \text{ of } 388 = ?$

- (a) 141 (b) 224 (c) 116 (d) 183 (e) 215

85. $18.345 \times 19.068 \times ? = 11538.93375$

- (a) 46 (b) 61 (c) 27 (d) 33 (e) 55

86. Which of the following values of x will satisfy the inequality $x^2 - 5x + 6 < 0$?

- (a) $2 < x < 3$ (b) $-3 < x < -2$
(c) $-2 < x < 2$ (d) $-3 < x < 2$
(e) None of these

87. In how many different ways can 3 girls and 4 boys be seated in a row so that all the girls sit together and all the boys sit together?

- (a) 540 (b) 360 (c) 144 (d) 288
(e) None of these

88. If $3x + 7y = 75$ and $5x - 5y = 25$, then what is the value of $x + y$?

- (a) 15 (b) 14 (c) 17 (d) 16
(e) None of these

89. Sujata started a business investing Rs 45,000. Neeta joined her after six months with Rs 80,000 and Ramesh joined them with Rs 1,20,000 after one year. Profit earned at the end of two years after Sujata started the business should be distributed among Sujata, Neeta and Ramesh respectively in what ratio?

- (a) 9 : 16 : 24 (b) 3 : 4 : 4
(c) 3 : 4 : 8 (d) 3 : 3 : 8
(e) None of these

90. If the perimeter of a circle is increased by 20%, what will be the effect on the area of the circle?

- (a) 40% increase (b) 44% increase
(c) 48% increase (d) Cannot be determined
(e) None of these

91. Ramakant invested amounts in two different schemes A and B for five years in the ratio of 5 : 4 respectively. Scheme A offers 8% simple interest and bonus equal to 20% of the amount of interest earned in 5 years on maturity. Scheme B offers 9% simple interest. If the amount invested in scheme A was Rs 20,000, what was the total amount received on maturity from both the schemes?

- (a) Rs. 58,200 (b) Rs. 50,800
(c) Rs. 51,200 (d) Rs. 52,800
(e) None of these

92. Two trains A and B start running together from the same point in the same direction, at the speeds of 60 kmph and 72 kmph respectively. If the length of both the trains is 240 metres, how long will it take for train B to cross train A?

- (a) 2 min 12 sec (b) 1 min 24 sec
(c) 1 min 12 sec (d) 2 min 24 sec
(e) None of these

93. The salary of Mr X increases every year in April by 15%. If his salary in July 2001 was Rs 20,000, what was his salary in September 2003?

- (a) Rs. 26,450 (b) Rs. 24,650
(c) Rs. 25,460 (d) Rs. 26,540
(e) None of these

Directions (Q. 94-95): Answer the questions on the basis of the following data.

A committee of 5 members is to be formed by selecting out of 4 men and 5 women.

94. In how many different ways can the committee be formed if it should have at least 1 man?

- (a) 115 (b) 120 (c) 125 (d) 140
(e) None of these

95. In how many different ways can the committee be formed if it should have 2 men and 3 women?

- (a) 16 (b) 60 (c) 45 (d) 36
(e) None of these

Directions (Q. 96-100): In each of these questions, two equations are given. You have to solve these equations and find out the values of x and y and give answer

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

96. I. $16x^2 + 20x + 6 = 0$

II. $10y^2 + 38y + 24 = 0$

97. I. $18x^2 + 18x + 4 = 0$

II. $12y^2 + 29y + 14 = 0$

98. I. $8x^2 + 6x = 5$

II. $12y^2 - 22y + 8 = 0$

99. I. $17x^2 + 48x = 9$

II. $13y^2 = 32y - 12$

100. I. $4x + 7y = 209$

II. $12x - 14y = -38$

ANSWER KEY

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

Hint & Solutions**66. Statement A :**

Rate of interest

$$= \frac{SI \times 100}{P \times T}$$

$$= \frac{2400 \times 100}{6000 \times 4} = 10\% \text{ per annum.}$$

In statement B, time of deposit is not given so we cannot find the solution.

67. Statement B :

$$x - \frac{3x}{4} = 34; \text{ or } \frac{x}{4} = 34;$$

$$\therefore x = 34 \times 4 = 136$$

Statement A :

75% of any number is $\frac{3}{4}$ of the number. It does not give any particular value.

68. Both the statements even together can't give the answer.**69. Statement A : No. B is not an odd no.**

Statement B : No B is an even no.

So either statement given the answer.

70. Statements (A+B) : give salary of D and E together, but not the salary of D alone.**71. Series is $9^2, 8^3, 7^4, 6^5, 5^6, 4^7, 3^8$**

$$\therefore ? = 3^8 = 6561$$

72. Series is $2^3, 4^3, 6^3, 8^3, 10^3, 12^3, \dots$

$$\text{Then } ? = 14^3 = 2744.$$

73. $3 \times 1 + 1 = 4; 4 \times 2 + 2 = 10; 10 \times 3 + 3 = 33$

$$33 \times 4 + 4 = 136; 136 \times 5 + 5 = 685; 685 \times 6 + 6 = 4116$$

76. $? = (12)^{20} \times (12)^5 = (12)^{20+5} = (12)^{25}$ **77. $? = 34.667 - 15.597 - 8.491 - 0.548$**

$$= 34.667 - 24.636 = 10.031.$$

78. $? = \frac{[(140)^2 \div 70 \times 16] \div 8}{14}$

$$= \frac{4480 \div 8}{14} = \frac{560}{14} = 40.$$

79. $? = 456 + 24 \times 0.75 - 12 = 456 + 18 - 12 = 462$ **80. $? = \sqrt{\sqrt{17956}} + \sqrt{24025}$**

$$= \sqrt{134 + 155} = \sqrt{289} = 17$$

81. $? = 724.998 \div 24.0488 \div 14.954$

$$= 724.998 \times \frac{1}{24.048} \times \frac{1}{14.954}$$

$$= 2.0160461589 \approx 2$$

82. $? = (848.999 + 274.052) \div 3.0054$

$$= 1123.051 \div 3.0054 = 373.67 \approx 374$$

83. $? = \sqrt[3]{84900} \approx 44$ **84. $? = 18.5\% \text{ of } 425 + 16.2\% \text{ of } 388.$**

$$= 78.625 + 62.856 = 141.481 \approx 141$$

85. $? = \frac{11538.93375}{18.345 \times 19.068} = \frac{11538.93375}{349.80246}$

$$= 32.986 \approx 33$$

86. Here $x^2 - 5x + 6 < 0$

$$\text{or } (x-3)(x-2) < 0$$

Hence, we get $x > 2$ and $x < 3$ ie $2 < x < 3$ is the correct choice.**87. The two groups of girls and boys can be arranged in 2! ways.**

Also, the three girls can be arranged among themselves in 3! ways.

Also, the four boys can be arranged among themselves in 4! ways.

Hence, the total number of required arrangements = $2! \times 3! \times 4! = 288$ **88. We can rewrite the equations as follows :**

$$15x + 35y = 375 \quad \dots(i)$$

$$\text{and } 15x - 15y = 75 \quad \dots(ii)$$

From equations (i) and (ii), we get

$$y = 6 \text{ and } x = 11$$

$$\therefore x + y = 17$$

89. The required ratio of profits of Sujata, Neeta and Ramesh = $45,000 \times 2 : 80,000 \times 1.5 : 1,20,000 \times 1$

$$= 90,000 : 1,20,000 : 1,20,000 \\ = 3 : 4 : 4$$

90. Note that here circumference (perimeter) of the circle has been increased by 20%. This implies that the radius of the circle must be increased by 20% (because circumference of a circle = $2\pi r$; where r = radius of the circle).

Now, since area of the circle = πr^2 , where r is multiplied twice, this implies that the area will witness two consecutive increases by 20%.

Hence, the required % increase

$$= 20 + 20 + \frac{20 \times 20}{100} = 44\%$$

91. Here, the amounts invested in the schemes A and B are Rs. 20,000 and Rs. 16,000 respectively.

Through the scheme A Ramakant gets

$$\left(8 \times 5 \frac{8 \times 5 \times 20}{100} =\right) 48\% \text{ as interest (including bonus)}$$

on the amount invested.

Whereas, through the scheme B Ramakant gets $(9 \times 5 =)$ 45% as interest on the amount invested.

Hence, the total amount received on maturity from both the schemes

$$= 148\% \text{ of } 20000 + 145\% \text{ of } 16000 \\ = \text{Rs. } 29,600 + \text{Rs. } 23,200 \\ = \text{Rs. } 52,800$$

92. Note that when a train crosses another train, it travels a distance equal to the sum of the lengths of both the trains. Hence, the total distance travelled by the train is $(240 \times 2 =)$ 480 m.

Here, the relative speed of the train

$$= 72 - 60 = 12 \text{ km per hour}$$

$$\text{ie } 12 \times \frac{5}{18} \text{ m/sec}$$

$$\text{Hence, the required time} = \frac{480 \times 18}{12 \times 5} = 144 \text{ sec,}$$

ie 2 min and 24 sec

93. During the given period (July 2001 to September 2003), salary of Mr x increased twice.

Hence the overall increase in the salary

$$= 15 + 15 + \frac{15 \times 15}{100} = 32.25\%$$

Hence, the salary in September 2003

$$= \frac{20000 \times 132.25}{100} \\ = 2 \times 13225 = \text{Rs. } 26,450$$

95. Here, two men out of 4 men can be selected in 4C_2 ways. Also, three women out of 5 women can be selected in 5C_3 ways.

Hence, the total number of different ways of selection

$$= {}^4C_2 \times {}^5C_3 = \frac{4 \times 3}{2 \times 1} \times \frac{5 \times 4 \times 3}{3 \times 2 \times 1}$$

$$= 6 \times 10 = 60$$

96. I. $16x^2 + 20x + 6 = 0$

$$16x^2 + 12x + 8x + 6 = 0$$

$$4x(4x + 3) + y(4x + 3) = 0$$

$$(4x + 3)(4x + 2) = 0$$

$$\therefore x = \frac{-3}{2} \text{ or } \frac{-1}{2}$$

II. $10y^2 + 38y + 24 = 0$

$$5y^2 + 19y + 12 = 0$$

$$5y^2 + 15y + 4y + 12 = 0$$

$$5y(y + 3) + 4(y + 3) = 0$$

$$(5y + 4)(y + 3) = 0$$

$$\therefore y = \frac{4}{5} \text{ or } -3$$

Hence, $x > y$

97. $18x^2 + 18x + 4 = 0$

$$9x^2 + 9x + 2 = 0$$

$$9x^2 + 6x + 3x + 2 = 0$$

$$3x(3x + 2) + 1(3x + 2) = 0$$

$$(3x + 1)(3x + 2) = 0$$

$$\therefore x = \frac{-1}{3} \text{ or } \frac{-2}{3}$$

II. $12y^2 + 29y + 14 = 0$

$$12y^2 + 21y + 8y + 14 = 0$$

$$3y(4y + 7) + 2(4y + 7) = 0$$

$$(3y + 2)(4y + 7) = 0$$

$$\therefore y = \frac{-2}{3} \text{ or } \frac{-7}{4}$$

Hence, $x \geq y$

98. I. $8x^2 + 6x - 5 = 0$

$$2x(4x + 5) - 1(4x + 5) = 0$$

$$(2x - 1)(4x + 5) = 0$$

$$\therefore x = \frac{1}{2} \text{ or } \frac{-5}{4}$$

II. $12y^2 - 22y + 8 = 0$

$$12y^2 - 16y - 6y + 8 = 0$$

$$4y(3y - 4) - 2(3y - 4) = 0$$

$$(4y - 2)(3y - 4) = 0$$

$$\therefore y = \frac{1}{2} \text{ or } \frac{4}{3}$$

Hence, $x \leq y$

99. I. $17x^2 + 48x - 9 = 0$

$$17x^2 + 51x - 3x - 9 = 0$$

$$17x(x + 3) - 3(x + 3) = 0$$

$$(17x - 3)(x + 3) = 0$$

$$\therefore x = \frac{3}{17} \text{ or } -3$$

$$\text{II. } 13y^2 - 32y + 12 = 0$$

$$13y^2 - 36y - 6y + 12 = 0$$

$$13y(y - 2) - 6(y - 2) = 0$$

$$(13y - 6)(y - 2) = 0$$

$$\therefore y = \frac{6}{13} \text{ or } 2$$

Hence, $x < y$

$$\mathbf{100.I. } 4x + 7y = 209$$

$$8x + 14y = 418 \quad \dots(i)$$

$$\text{II. } 12x - 14y = -38 \quad \dots(ii)$$

From (i) and (ii), we get

$$20x = 380$$

$$\therefore x = 19$$

Putting value of x in equation (i),

$$\text{we get } y = 19$$

$$\therefore x = y$$