

**SECTION – I**

**REASONING & MATHEMATICS**

**Directions (Qs. 1 to 5):** Read the following Information carefully and answer the questions that follow:

- (i) Five friends P, Q, R, S and T travelled to five different cities of Chennai, Calcutta, Delhi, Bangalore and Hyderabad by five different modes of transport of Bus, Train, Aeroplane, Car and Boat from Mumbai.
- (ii) The person who travelled to Delhi did not travel by boat.
- (iii) R went to Bangalore by car and Q, went to Calcutta by aeroplane.
- (iv) S travelled by boat whereas T travelled by train.
- (v) Mumbai is not connected by bus to Delhi and Chennai.

1. Which of the following combinations of person and mode is not correct?  

[1] P – Bus	[2] T – Aeroplane	[3] R – Car	[4] S – Boat
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2. Which of the following combinations is true for S?  

[1] Delhi–Bus	[2] Chennai–Bus	[3] Chennai–Boat	[4] Data inadequate
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3. Which of the following combinations of place and mode is not correct?  

[1] Delhi–Bus	[2] Chennai–Boat	[3] Chennai–Bus	[4] Calcutta–Aeroplane
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4. The person travelling to Delhi went by which of the following modes?  

[1] Bus	[2] Train	[3] Aeroplane	[4] Car
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5. Who among the following travelled to Delhi?  

[1] R	[2] S	[3] T	[4] P
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**Directions (Qs. 6 to 10):** Read the following information carefully and answer the questions given below it:

There are six persons A, B, C, D, E and F in a school. Each of the teachers teaches two subjects, one compulsory subject and the other optional subject. D's optional subject was History while three others have it as compulsory subject. E and F have Physics as one of their subjects. F's compulsory subject is Mathematics which is an optional subject of both C and E. History and English are A's subjects but in terms of compulsory and optional subjects, they are just reverse of those of D's. Chemistry is an optional subject of only one of them. The only female teacher in the school has English as her compulsory subject.

6. What is C's compulsory subject?  

[1] History	[2] Physics	[3] Chemistry	[4] English
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7. Who is a female member in the group?  

[1] A	[2] B	[3] C	[4] D
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8. Which of the following has the same compulsory and optional F's  

[1] D	[2] B	[3] A	[4] None of these
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9. Disregarding which is the compulsory and which is and optional subject, who has the same two subject combinations as F?  

[1] A	[2] B	[3] E	[4] D
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10. Which of the following groups has History as the compulsory subject?  
 [1] A, C, D                      [2] B, C, D                      [3] C, D                      [4] A, B, C
11. Eight books are kept one over the other. 'Counting from the top the second, fifth and sixth books are on Plays. Two books on Plays are between two books on Composition. One book of Plays is between two books on Poetry while the book at the top, of the book of Literature is a book of Composition, Which book is fourth from the top?  
 [1] Plays                      [2] Poetry                      [3] Composition                      [4] Literature

**Directions (Qs. 12 to 16):** Study the given information carefully and answer the questions that follow:

- (i) A, B, C, D, E, F and G are sitting on a wall and all of them are facing east.  
 (ii) C is on the immediate right of D.  
 (iii) B is at an extreme end and has E as his neighbour.  
 (iv) G is between E and K  
 (v) D is sitting third from the south end.
12. Who is sitting to the right of E ?  
 [1] A                      [2] C                      [3] D                      [4] None of these
13. Which of the following pairs of people are sitting at the extreme ends?  
 [1] AB                      [2] AE                      [3] CB                      [4] FB
14. Name the person who should change places with C such that he gets the third place from the north end.  
 [1] E                      [2] F                      [3] G                      [4] D
15. Immediately between which of the following pairs of people is D sitting?  
 [1] AC                      [2] AF                      [3] CE                      [4] CF
16. Which of the conditions (i) to (v) given above is not required to find out the place, in which A is sitting?  
 [1] (i)                      [2] (ii)                      [3] (iii)                      [4] All are required

**Directions (Qs. 17 to 21):** Study the given Information carefully and answer the questions that follow:

- (i) Six friends P, Q, R, S, T and U are members of a club and play a different game of Football, Cricket, Tennis, Basketball, Badminton and Volleyball.  
 (ii) T who is taller than P and S plays Tennis.  
 (iii) The tallest among them plays Basketball.  
 (iv) The shortest among them plays Volleyball.  
 (v) Q and S neither play Volleyball nor Basketball.  
 (vi) R plays Volleyball.  
 (vii) T is between Q who plays Football and P in order of height.
17. Who among them is taller than R but short than P?  
 [1] Q                      [2] T                      [3] U                      [4] None of these
18. Who will be at the third place if they are arranged in the descending order of the height?  
 [1] Q                      [2] P                      [3] S                      [4] T
19. Which of the following statements is not true?  
 [1] P is shorter than R      [2] Q is taller than S      [3] S is taller than R      [4] T is taller than R

20. Who among them plays Basketball?  
[1] Q [2] K [3] S [4] U
21. What does S play?  
[1] Cricket  
[2] Badminton  
[3] Football  
[4] Either Cricket or Badminton

**Directions (Qs. 22 to 26):** Read the following information to answer the given questions:

The Director of the Institute has announced that six guest lectures on different areas like Leadership, Decision Making, Quality Circles, Motivation, Assessment Centre and Group Discussion are to be organised only one on each day from Monday to Sunday.

- (i) Motivation should be organised immediately after Assessment Centre.  
(ii) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion.  
(iii) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion.  
(iv) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.
22. Which of the Pairs of lectures were organised on first and last day?  
[1] Quality Circle and Motivation  
[2] Group Discussion and Quality Circle  
[3] Group Discussion and Decision Making  
[4] None of the above
23. How many lectures are organised between Motivation and Quality Circle?  
[1] One [2] Two [3] Three [4] Four
24. Which day will the lecture on Leadership be organised?  
[1] Tuesday [2] Wednesday [3] Friday [4] None of the above
25. On which day there is no lecture?  
[1] Sunday [2] Monday [3] Tuesday [4] Wednesday
26. Which of the following information is not required for the above lecture arrangements?  
[1] Only (i) [2] Only (ii) [3] All are required [4] Only (iii)

**Directions (Qs. 27 to 30):** On the basis of the information given below, answer the following questions:

- (i) P, Q, R, S, T and U are six members of a group of which three are males and three are females.  
(ii) There are two engineers, two lawyers, one teacher and one doctor in the group.  
(iii) Q, T, P and R are two married couples and no person in this group has the same profession.  
(iv) T, a teacher with blue dress, married a male lawyer with brown dress.  
(v) Colour of the dresses of both the husbands and that of both the wives is the same.  
(vi) Two persons have blue dress, two have brown and the remaining one each has black and green.  
(vii) P is a male engineer whose sister S is also an engineer.  
(viii) Q is a doctor.
27. Who is the wife of P?  
[1] Q [2] R [3] S [4] T
28. Which of the following is a group of female members?  
[1] QSR [2] QST [3] QSU [4] QTU

29. Which of the following is a pair of married ladies?  
[1] PR [2] TS [3] QT [4] Data inadequate
30. What is the colour of U's dress?  
[1] Black [2] Green [3] Black or green [4] None of the above

**Directions (Qs. 31 to 35):** Read the following information carefully and answer the questions that follow:

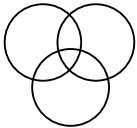
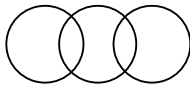
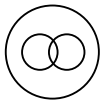
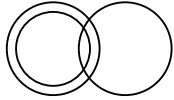

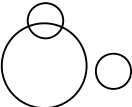
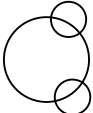

A, B, C, D, and E are five towns out of which two are hill stations and the four towns out of five are capitals and two are industrial towns. Populations of two towns is less than 5 lacs. It is 20 lacs of one town and more than 50 lacs of two towns. Two towns are on the same latitudes and other two are on the same longitudes. Latitudes and longitudes of both harbours are different and out of these one is an industrial town. The population of both industrial towns is more than 50 lacs. The longitudes of one hill station and one of the industrial towns are same. The latitudes and longitudes of the other hill station and other harbour are different. One industrial town is neither a hill station nor a harbour. None of the hill stations is an industrial town. The hill station, of which longitudes of A and E are same. E is a harbour. The latitudes of D and C are same and the population of D is 20 lacs. Both the harbours are capitals and one of them is an industrial town.

31. Which of the following two towns are those whose population is less than 5 lacs?  
[1] D and A [2] B and C [3] A and B [4] A and C
32. Which of the following towns is not a capital?  
[1] A [2] C [3] D [4] B
33. Which of the following is a harbor, capital and an industrial town?  
[1] A [2] B [3] C [4] E
34. Which of the following towns have population more than 50 lacs?  
[1] A and D [2] B and E [3] C and E [4] C and D
35. Which one of the following town is a hill station as well as a capital?  
[1] B [2] C [3] E [4] A

**Directions (Qs. 36 to 41):** Study the following information and answer the questions given below it:

A, B, C and D are four friends who do not mind exchanging items. A had two chessboards each costing Rs.500 and a record player. C originally had a cycle and a walkman. Each cricket bat costs Rs. 700. Both D and C got a cricket bat from B. A gave his record player costing Rs. 2,000 to B. C got a camera costing Rs. 1,500 from D. The cycle C had cost Rs. 1,000 and the walkman costs Rs. 700. B had three cricket bats at the beginning and D had two cameras, total cost of which is Rs. 5,000. A gave one of his chessboards to C and took C's cycle. C gave his walkman to D.

36. Who did not have a cricket bat at the end of exchange of items?  
[1] A [2] B [3] C [4] D
37. The total cost of materials C had at the beginning was:  
[1] Rs. 5,000 [2] Rs.3,000 [3] Rs. 2,100 [4] Rs. 1,700
38. After completion of exchange of items, A had with him an item which no one else had. What is the item?  
[1] Chessboard [2] Cycle [3] Record player [4] Walkman

39. At the beginning who had the costliest items?  
 [1] A [2] B [3] C [4] D
40. In the process of exchange of items, B received an item from:  
 [1] A [2] D [3] C [4] None of these
41. After exchange of items, B had:  
 [1] one record player [2] one cricket bat  
 [3] one record player and one cricket bat [4] None of the above
42. Kailash faces towards north. Turning to his right, he walks 25 metres. He then turns to his left and walks 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally, he turns to the right and moves 40 metres. In which direction is he from his starting point?  
 [1] South-west [2] South [3] North-west [4] South-east
43. Johnson left for his office in a car. He drove 15 km towards north and then 10 km towards west, He then turned to the south and covered, 5 km. Further, he turned to the east and moved 8 km. Finally, he turned right and drove 10 km. How far and in which direction is he from his starting point?  
 [1] 2 km West [2] 3 km North [3] 6 km South [4] 5 km East
44. Which is the most-suitable Venn diagram among the following, which represents interrelationship among antisocial elements, Pickpockets and Blackmailers?  
 [1]  [2]  [3]  [4] 
45. Which one of the following four logical diagrams represents correctly the relationship between Musicians, Instrumentalists, and Violinists?  
 [1]  [2]  [3]  [4] 

**Directions (Qs. 46 & 47):** In each of the following questions, a matrix of certain characters is given. These characters follow a certain trend, row-wise or column-wise. Find out this trend and choose the missing character accordingly.

46.

18	24	32
12	14	16
3	?	4
72	112	128

- [1] 2 [2] 3 [3] 4 [4] 5

47.

3	6	8
5	8	4
4	7	?

- [1] 6 [2] 7 [3] 8 [4] 9

**Directions (Qs. 48 to 50):** For the Assertion (A) and Reason (R) given in each of the questions below, choose the correct alternative from the following:

- I. Both A and R are true and R is the correct explanation of A.  
 II. Both A and R are true but R is not the correct explanation of A.  
 III. A is true but R is false.  
 IV. A is false but R is true.

48. **Assertion (A):** Most of the ancient civilizations grew near the rivers.  
**Reason (R) :** The main occupation of man was agriculture.  
 [1] I [2] II [3] III [4] IV
49. **Assertion (A):** Buddha left home after his marriage.  
**Reason (R) :** He wished to be free of all worldly ties and become an ascetic  
 [1] I [2] II [3] III [4] IV
50. **Assertion (A) :** Food materials should not be soaked in water for a long time.  
**Reason (R) :** Washing leads to loss of Vitamin A and Vitamin D from the foodstuff.  
 [1] I [2] II [3] III [4] IV
51. 25% of a number is less than 18% of 650 by 19. The, number is:  
 [1] 450 [2] 544 [3] 380.8 [4] 392
52. The difference between compound interest and simple interest at the same rate Rs. 5,000 for 2 years is Rs. 72. The rate of interest per annum is:  
 [1] 6% [2] 8% [3] 10% [4] 12%
53. The condition for which the system of equations  $kx - y = 2$  and  $6x - 2y =$  has a unique solution, is :  
 [1]  $k = 3$  [2]  $k \neq 3$  [3]  $k \neq 0$  [4]  $k = 0$
54. A boy is running at a speed of  $p$  kmph to cover a distance of  $I$  km. But, due the slippery ground, his speed is reduced by  $q$  kmph ( $p > q$ ). If he takes  $r$  hour to cover the distance then:  
 [1]  $\frac{1}{r} = \frac{1}{p} + \frac{1}{q}$  [2]  $\frac{1}{r} = p - q$  [3]  $r = p + q$  [4]  $r = p - q$
55. Suppose  $y$  varies as the sum of two quantities of which one varies directly as  $x$  the other inversely as  $x$ .  
 If  $y = 6$  when  $x = 4$  and  $y = 3\frac{1}{3}$  when  $x = 3$ , the relation between  $x$  and  $y$  is:  
 [1]  $y = x + \frac{4}{x}$  [2]  $y = 2x + \frac{8}{x}$  [3]  $y = 2x + \frac{4}{x}$  [4]  $y = 2x - \frac{8}{x}$
56. A triangle with sides 13 cm, 14 cm and 15 cm is inscribed in a circle. The radius of the circle inscribed in the triangle is:  
 [1] 2 cm [2] 3 cm [3] 4 cm [4] 5 cm
57. The value of following is  
 $(x^a / x^b)^{(a+b)} \cdot (x^b / x^c)^{(b+c)} \cdot (x^c / x^a)^{(c+a)}$  :  
 [1] 0 [2]  $x^{abc}$  [3]  $x^{a+b+c}$  [4] 1
58. The perimeter of an isosceles triangle is equal to 14 cm and the lateral side the base in the ratio 5 : 4. The area of the triangle is :  
 [1]  $0.5\sqrt{21} \text{ cm}^2$  [2]  $1.5\sqrt{21} \text{ cm}^2$  [3]  $21 \text{ cm}^2$  [4]  $2\sqrt{21} \text{ cm}^2$

59. Two-third of a consignment was sold at a profit of 5% and the remainder at a of 2%. If the total profit was Rs. 400, the value of the consignment (in rupees)  
[1] 20,000                      [2] 15,000                      [3] 12,000                      [4] 10,000
60. Area of the rectangular region  $2 \times 5$ ,  $-1 \leq y \leq 3$  is:  
[1] 9 units                      [2] 12 units                      [3] 15 units                      [4] 20 units
61. Vaidya and Vandana solved a quadratic equation. In solving it, Vaidya made a mistake in the constant term and obtained the roots as 6 and 2, while Vandana made a mistake in the coefficient of x only and obtained the roots as -7 and -1. The correct roots of the equation are:  
[1] 6, 1                      [2] 7, 2                      [3] 6, 2                      [4] 7, 1
62. If then the value of  $(a^2/bc + b^2/ca + c^2/ab)$  is :  
[1] 1                      [2] 0                      [3] -1                      [4] 3
63. Consider the following statements:  
When two straight lines intersect, then:  
I. adjacent angles are complementary  
II. adjacent angles are supplementary  
III. opposite angles are equal  
IV. opposite angles are supplementary
- Of these statements:  
[1] (I) and (III) are correct  
[2] (II) and (III) are, correct  
[3] (I) and (IV) are correct  
[4] (II) and (IV) are correct
64. A gardener plants 17956 trees in such a way that there are as many Rows as there are trees in a row. The number of trees in a row are:  
[1] 136                      [2] 134                      [3] 144                      [4] 154
65.  $\log(a^2/bc) + \log(b^2/ac) + \log(c^2/ab)$  is:  
[1] 1                      [2] 0                      [3] 39                      [4] abc
66. Three numbers are in the ratio 3 : 4 : 5. Then sum of the largest and the smallest equals the sum of the third and 52. The smallest number is:  
[1] 20                      [2] 27                      [3] 39                      [4] 52
67. The areas of two similar triangles are  $12 \text{ cm}^2$  and  $48 \text{ cm}^2$ . If the height of the smaller one is 2.1 cm, then the corresponding height of the bigger one is:  
[1] 4.41 cm                      [2] 8.4 cm                      [3] 4.2 cm                      [4] 0.525 cm
68. An alloy contains zinc and copper in the ratio 5 : 8 and another alloy contains zinc and copper in the ratio 5 : 3. If equal amounts of both the alloys are melted together, then the ratio of zinc and copper in the resulting alloy is:  
[1] 25 : 24                      [2] 3 : 8                      [3] 103 : 105                      [4] 105 : 103
69. The ratio of Laxmi's age to the age of her mother is 3 : 11. The difference of their ages is 24 years. The ratio of their ages after 3 years will be:  
[1] 1 : 3                      [2] 2 : 3                      [3] 3 : 5                      [4] 2 : 5

70. Four milkmen rented a pasture. A grazed 18 cows for 4 months, B 25 cows for 2 months, C 28 cows for 5 months, and D 21 cows for 3 months. If A's share of rent is Rs. 360, the total rent of the field (in rupees) is:  
 [1] 1,500                      [2] 1,600                      [3] 1,625                      [4] 1,650
71. The area of a rectangular field is 52000 m<sup>2</sup>. This rectangular area has been drawn on a map to the scale 1 cm to 100 m. The length is shown as 3.25 cm on the map. The breadth of the rectangular field is :  
 [1] 300.5 m                      [2] 200.5 m                      [3] 160 m                      [4] 150 m
72.  $(x^n - a^n)$  is divisible by  $(x - a)$  :  
 [1] for all values of n                      [2] only for even values of n  
 [3] only for odd values of n                      [4] only for prime values of m
73. Two cyclists start from the same place in opposite directions. One goes towards North at 18 Kmph and the other goes towards South at 20 kmph. What time will they take to be 47.5 km apart?  
 [1]  $2\frac{1}{4}$  hours                      [2]  $1\frac{1}{4}$  hours                      [3] 2 hrs. 23 min.                      [4]  $23\frac{1}{4}$  hours
74. The least number of square tiles required to pave the ceiling of a room 15 m 17 cm long and 9 m 2 cm broad is:  
 [1] 902                      [2] 656                      [3] 738                      [4] 814
75. The average of 6 numbers is 30. If the average of first four is 25 and that of the last three is 35, the fourth number is:  
 [1] 35                      [2] 30                      [3] 25                      [4] 20
76. The sum of all odd numbers between 100 and 200 is :  
 [1] 6200                      [2] 6500                      [3] 7500                      [4] 3750
77. The length of a rectangular room is 4 metres. If it can be partitioned into two equal square rooms, what is the length of each partition in metres?  
 [1] 1                      [2] 2                      [3] 4                      [4] Data inadequate
78. In a group of 52 persons, 16 drink tea but not coffee and 33 drink tea. How many drink coffee but not tea?  
 [1] 3                      [2] 7                      [3] 17                      [4] 19
79. A square lawn with side 100-m long has a circular flowerbed in the centre. If the area of the lawn, excluding the flowerbed is 8614 m<sup>2</sup>, the radius of the circular flowerbed is:  
 [1] 31m                      [2] 21m                      [3] 41 m                      [4] None of these
80. A cube of side 6 cm is cut to a number of cubes each of side 2 cm. The number of cubes will be:  
 [1] 6                      [2] 9                      [3] 12                      [4] 27
81. A dealer sold a radio at a loss of 2.5%. Had he sold it for Rs. 100 more, he would have gained 7 1/2%. In order to gain 12 1/2%, he should sell it for:  
 [1] Rs. 850                      [2] Rs: 925                      [3] Rs. 1,080                      [4] Rs. 1,125
82. The equation of the line passing through the point (1, 1) and perpendicular to the line  $3x + 4y - 5 = 0$ , is :  
 [1]  $3x + 4y - 7 = 0$                       [2]  $3x + 4y + k = 0$                       [3]  $4x - 3y + 1 = 0$                       [4]  $4x - 3y - 1 = 0$

83. The area of a circle inscribed in an equilateral triangle is  $462 \text{ cm}^2$ . The perimeter of the triangle is:  
[1] 423 cm                      [2] 126 cm                      [3] 72.6 cm                      [4] 168 cm
84.  $1 - 1/3 + 1/3^2 - 1/3^3 + \dots \infty = ?$   
[1]  $1/2$                       [2]  $1/6$                       [3]  $3/4$                       [4]  $4/9$
85. Two rectangular sheets of paper, each  $30 \text{ cm} \times 18 \text{ cm}$  are made into two right circular cylinders, one by rolling the paper along its length and the other long the breadth. The ratio of the volumes of the two cylinders, thus formed, is:  
[1]  $2 : 1$                       [2]  $3 : 2$                       [3]  $4 : 3$                       [4]  $5 : 3$
86. 40 men can build a wall 20 m high in 15 days. The number of men required to build a similar wall 25 m high in 6 days will be:  
[1] 100                      [2] 125                      [3] 150                      [4] 200
87. The radius of the wheel of a vehicle is 70 cm. The wheel makes 10 revolutions in 5 seconds. The speed of the vehicle is:  
[1] 29.46 km/hr                      [2] 31.68 km/hr                      [3] 36.25 km/hr                      [4] 32.72 km/hr
88. A can complete a job in 9 days, B in 10 days and C in 15 days. Band C start the work and are forced to leave after 2 days. The number of days taken by A to finish the remaining work is:  
[1] 8                      [2] 9                      [3] 6                      [4] 14
89. There are four lines in a plane no. two of which are parallel. The maximum number of points in which they can intersect is:  
[1] 4                      [2] 5                      [3] 6                      [4] 7
90. The monthly incomes of A and B are in the ratio of  $4 : 3$ . Each of them saves Rs. 600 If the ratio of their expenditures is  $3 : 2$ , then the monthly income of A is:  
[1] Rs. 2,400                      [2] Rs 1,800                      [3] Rs.2,000                      [4] Rs.3,600
91. A can fill a cistern in 4 hours while pipe B can empty it in 6 hours. If both of them are opened together at the same time when the tank is empty, the number of hours taken by them to fill it, is  
[1] 6                      [2] 8                      [3] 10                      [4] 12
92. The value of:  
 $[x^2 - (y - z)^2/(x + z)^2 - y^2 + y^2 - (x - z)^2/(x + y)^2 - z^2 + z^2 - (x - y)^2/(y + z)^2 - x^2]$  is:  
[1] 0                      [2] 1                      [3] -1                      [4] None of these
93. Two vessels A and B contain milk and water mixed in the ratio  $5 : 3$  and  $2 : 3$ . When these mixtures are mixed to form a new mixture containing half milk and half water, they must be taken in the ratio:  
[1]  $2 : 5$                       [2]  $3 : 5$                       [3]  $4 : 5$                       [4]  $7 : 3$
94. A mixture of 40 litres of milk and water contains 10% water. How much water should be added to it so that water may be 20% in the new mixture?  
[1] 5 litres                      [2] 4 litres                      [3] 6.5 litres                      [4] 7.5 litres
95. A train speeds past a pole in 15 seconds and a platform 100 m long in 25 seconds. Its length in metres is:  
[1] 50                      [2] 150                      [3] 200                      [4] 375

96. A rectangular water tank is open at the top. Its capacity is  $24 \text{ m}^3$ . Its length and breadth are 4 m and 3 m respectively. Ignoring the thickness of the material used for building the tank, the total cost of painting the inner and outer surfaces of the tank at the rate of Rs. 10 per  $\text{m}^2$  is:  
 [1] Rs. 400                      [2] Rs. 500                      [3] Rs. 600                      [4] Rs. 800
97. The value of  $[1/(216)-213+1/(256)-314+1/(243)-1/5]$  is  
 [1] 107                              [2] 105                              [3] 103                              [4] None of these
98.  $[1/(\sqrt{9}-\sqrt{8})-1/(\sqrt{8}-\sqrt{7})+1/(\sqrt{7}-\sqrt{6})-1/\sqrt{6}-\sqrt{5})+1/(\sqrt{5}-\sqrt{4})] = ?$   
 [1] 0                                [2] 1                                [3] 5                                [4]  $1/3$
99. An observer standing 72 m away from a building notices that the angles of elevation of the top and the bottom of a flagstaff on the building are respectively  $60^\circ$  and  $45^\circ$ . The height of the flagstaff is:  
 [1] 124.7 m                      [2] 52.7m                      [3] 98.3m                      [4] 73.2m
100. If x is an integer such that  $x + \frac{1}{x} = \frac{17}{4}$  then the value of  $x - \frac{1}{x}$  is:  
 [1] 4                                [2]  $\frac{13}{4}$                               [3]  $\frac{15}{4}$                               [4]  $\frac{1}{4}$

## SECTION-II

### READING COMPREHENSION AND VERBAL ABILITY

**Directions (Qs. 101 to 105):** Each question consists of a sentence that has two blanks; each blank indicates that something has been omitted. Be heath each sentence is four sets of words, labelled (1) through (4). Choose the set of words that when inserted in the sentence, best fits the meaning of the sentence as a whole.

101. An essential purpose o the criminal justice system is to enable purgation to take place; that is, to provide a ..... by which a community expresses its collective..... the transgression of the criminal.  
 [1] document; disapprobation of                      [2] procedure; distaste for  
 [3] means; empathy with                              [4] catharsis; outrage of
102. Unable to.....his wholehearted distaste for media events and publicity, the miffed minister continued to make.....comments throughout his speech:  
 [1] conceal; effusive                      [2] control; garbled                      [3] disguise; caustic                      [4] express; vitriolic
103. The policeman conducted the interrogation not only with dispatch but with ..... being a person who.....is in manner yet subtle in licentiousness.  
 [1] elan; enthusiastic                      [2] finesse; expeditious                      [3] zeal; pensive                      [4] trepidation; cursory
104. The sudden shift from ..... to ..... in the author's novel can startle readers, especially when she abruptly juxtaposes a scene of holy love with one of profane licentiousness.  
 [1] devotion; frivolity                      [2] decorum; salubrity                      [3] piety; ribaldry                      [4] vulgarity; adultery
105. It is only to the vain that all is vanity; and all .....only to those who have never been ..... themselves.  
 [1] arrogance; proud of                              [2] avarice; left to  
 [3] cowardice; afraid for                              [4] deception; sincere with

**Directions (Qs. 106 to 115):** In each of the following questions, a related pair of words is linked by a colon, followed by four pair of words. Choose the pair, which is most like the relationship expressed in the original pair in capital letters.

106. IMPECUNIOUS : MENDICANT : :  
[1] Prodigal : Philanthropist [2] Petulant: Complainer  
[3] Quizzical: Critic [4] Compulsive: Liar
107. ERROR : INFALLIBLE : :  
[1] Emotion: Invulnerable [2] Defect: Intolerable  
[3] Flaw: Impeccable [5] Cure: Irreversible
108. TEARS : LACHRYMOSE : :  
[1] Words : Verbose [2] Speeches : Morose [3] Jests : Ironie [4] requests : Effusive
109. AUHENTICITY : APOCRYPHAL : :  
[1] Wickedness: Nefarious [2] Artifice: Deceptive  
[3] Assertiveness: Dogmatic [4] Integrity: Hypocritical
110. SERVILITY:GROVEL: :  
[1] Arrogance: Titter [2] Modesty: Preen [3] Hypocrisy: Snivel [4] Anger: Fume
111. POET:DOGGEREL: :  
[1] Composer: Symphony [2] Painter: Easel  
[3] Playwright: Soliloquy [4] Novelist: Potboiler
112. LIGHT:GLINT: :  
[1] Colour: Shade [2] Scent: Whiff [3] Sound: Blare [4] Title: Wave
113. VAINGLORIOUS : SELFRESPECTING : :  
[1] Cantankerous: Querulous [2] Lascivious : Modest  
[3] Punctilious: Careful [4] Perfidious: Loyal
114. TOCSIN : DANGER : :  
[1] Knell: Death [2] Clarion: Battle [3] Augury: Warning [4] Antitoxin: Cure
115. HERO : ACCOLADE : :  
[1] Defendant: Indictment [2] Laughingstock: Ridicule  
[3] Mentor: Advice [4] Clodhopper: Grace

**Directions (Qs. 116 to 119):**

Each question has 4 pairs of words in a set. A set may consist of synonyms or antonyms.

116. Mark the pair that does not go with other pairs in the set:  
[1] Bawdiness: Persiflage [2] Platitudinous: Original  
[3] Vicarious: Secondhand [4] Ephemeral: Evanescent
117. Mark the pair that does not go with other pairs in the set:  
[1] Enervated: Exhilarated [2] Extravagant: Parsimonious  
[3] Cliche: Bromide [4] Indigent: Opulent
118. Mark the pair that does not go with other pairs in the set:  
[1] Cadaverous: Gaunt [2] Dolorous: Delightful  
[3] Obstreperous: Noisy [4] Obsequious: Servile

119. Mark the pair that does not go with other pairs in the set:  
[1] Catlike: Feline      [2] Bearlike: Ursine      [3] Horselike: Equine      [4] Vulturelike: Vulpine
120. Given below are the names of some phobias (fears). Match the correct group of words with the phobias given in capital letters:  
CALLOPHOBIA; SCELEROPHOBIA;  
OCHLOPHOBIA; COPROPHOBIA.  
[1] Colours; Celebrity; Ocean; Company      [2] Company; Burglars; Crowds; Celebrity  
[3] Beauty; Burglars; Crowds; Faces      [4] Beauty; Scenery; Orchestra; Faces
121. Which is the set of correct spellings?  
[1] Separate; Occurance; Repitition; Category      [2] Seperate; Occurrence; Repetition; Catagory  
[3] Separate; Occurance; Repeatition; Category      [4] Separate; Occurrence; Repetition; Category
122. Which is the set of correct spellings?  
[1] Vacuum; Benefited; Occasionally; Tariff      [2] Vaccuum; Benefited; Occasionally; Tariff  
[3] Vacuum; Benefitted; Occassionally; Tariff      [4] Vaccuum; Benefitted; Occassionally; Tariff
123. Which is the set of correct spellings?  
[1] Accomodate; Parallel; Indispensible; Insistant  
[2] Accommodate; Parallel; Indispensable; Insistent  
[3] Accommodate; Parallel; Indispensable; Insistant  
[4] Accommodate; Parallal; Indispensible; Insistent
124. Which is the set of correct spellings?  
[1] Irresistable; Perseverance; Precede; Supercede  
[2] Irresistible; Perseverance; Preceed; Supercede  
[3] Irresistible; Perseverance; Proceed; Supersede  
[4] Irresistible; Perseverance; Proceed; Supersede
125. Which word comes closest to the meaning of the Root Word in capital letter?  
ALGOS  
[1] Pain      [2] Nostalgia      [3] Algorithm      [4] Algebra
126. Which word comes closest to the meaning of the Root word in capital letter?  
LEVIS  
[1] Slave      [2] Light      [3] Alleviate      [4] Levitation
127. Which group of words have a pair that does not go with other pairs in the same group?  
[1] Self-abnegation : Egoism; Capitulate : Resist; Synergistic: Neutrality  
[2] Commiserate : Sympathize; Intimate : Hint; Perspicacious: Keen-minded  
[3] Satyriasis : Nymphomania; Convivial: Friendly; Verbose: Laconic  
[4] Tyro : Virtuoso; Placate : Irritate; Perspicuous : Confused

**Directions (Qs. 128 to 135):** Read passage-I and answer the questions given at the end of the passage. The answers should be based either on the author's views or inferences drawn from the given passage.

**PASSAGE-1**

George Bush has the dubious distinction of presiding over the largest negative budget swing in American history: from a surplus of \$236 billion in 2000, the year he was elected, to a deficit of \$ 412 billion, or 3.6% of GDP, when he stood again in 2004.

Even in an economy with output of around \$ 12 trillion, \$648 billion is a lot of money to misplace. Analysts were aghast when the Bush administration's Office of Management and Budget (OMB) projected that the fiscal year to September 2005 would bring bigger deficits still: \$427 billion, according to numbers released in February. The more cynical observers suggested that the administration was simply releasing a gargantuan number for the pleasure of later telling voters that the budget deficit was closing faster than expected. In support of their argument, figures released by the Congressional Budget Office (CBO) in March projected a deficit of only \$365 billion.

When the OMB revised its numbers sharply downward in July, to \$333 billion, the doubting Thomas's seemed to have a good case. Now however, the CBO, which is generally seen as more level headed, has followed suit. In its Budget and Economic Outlook, released on Monday August 15th, the CBO's projections moved roughly into line with the administration's forecasting a shortfall of \$331 billion, or roughly 2.7% of GDP. Republicans, unsurprisingly, rushed to claim credit for the improvement. Tom Delay, the majority leader of the House of the Representatives, said that the brighter budget picture "should come as no surprise" to anyone familiar with the Republican platform of cutting taxes to spur economic growth. Many voters are also prepared to give Mr. Bush the benefit of the doubt. The economy, after all, seems to be chugging along nicely. Real GDP grew at a solid 3.4% in the second quarter of 2005, an annual rate envied by most European countries. Even America's budget deficit doesn't look so bad when compared with the likes of Italy and Germany.

Democrats, of course, pooh-poohed significantly, Douglas Holtz-Eakin, the CBO's director, gave a warning that the improvement, while welcome, seemed to be largely temporary. The CBO's report attributes most of the decrease to an unexpected surge in corporate income tax receipts, thanks to double-digit growth in corporate profits since the end of the 2001 slowdown. But the boom in profits cannot be sustained over the long term, especially since much of the increase seems to stem from short-lived changes to the tax code. Further out into the forecast period, the CBO says its outlook is largely unchanged. The deficit will shrink slowly until 2010, then drop sharply as Mr. Bush's tax cuts expire. Federal debt will tick slightly upward, reaching almost 40% of GDP by 2010, and then begin declining as the expiring tax cuts push the budget towards balance.

All of this is, of course, more art than science. The CBO itself notes that even if there are no legislative changes in levels of taxation or spending, the vagaries of economic forecasting mean that there is a 25% chance that the budget will be in balance, or show a surplus, in 2010—and a 10% chance that that year will see a budget deficit greater than 5.9% of GDP. And many of the assumptions that the CBO makes, or is forced to make, seem rather far-fetched. It assumes that discretionary spending grows only at the rate of inflation, for instance, even though in the recent years this category has grown at multiples of the inflation rate. It is also required to proceed as if all of Mr. Bush's tax cuts were destined to expire on schedule, when in fact there is considerable interest in making them permanent.

But there's one prediction it is making with a high degree of confidence: Social Security and Medicare, America's, old-age programmes, will eat up an increasing share of federal spending and thus spell big trouble for the budget. The first "baby boomers" will be eligible for early retirement in 2008. The strain of caring for the swelling ranks of America's aged will begin to tell then, and it will get steadily worse throughout the remainder of the forecast period, which ends in 2015. The CBO thinks that Social Security, Medicare and Medicaid, America's health-care programme for the poor, will together account for more than half of federal spending by 2015. The CBO's forecasting period does not stretch far enough to cover the biggest shocks to come. It is not until 2017 that Social Security's outflows will begin to exceed its inflows, forcing the government to tap general tax revenues to pay benefits. Excess Social Security contributions have been masking a large portion of the budget deficit for years; without those "off-budget" surpluses, Bill Clinton would have struggled to close the deficit in his last two years in office, and last two year's shortfall would have been well over half a trillion dollars.

Mr. Bush, of course, would argue that this is precisely why the country needs his proposed (and floundering) reform of Social Security. His opponents retort that it calls for a thorough repeal of his

changes to the tax code. With 2017 comfortably distant-sounding, neither seems particularly likely. Instead, America's government is bringing back the 30-year bond, which it retired in 2001 when surpluses seemed to stretch, out as far as the eye could see. As they run up the national charge account, legislators, can atleast take comfort that the latest round of downward revisions to forecasts seems to cast further doubt on the "twin-deficit hypothesis", which argues that Mr. Bush's spendthrift ways are driving up the current-account deficit and putting the country in danger of a catastrophic revaluation of the dollar. Trade deficits have continued to soar even if budget deficits have come down, which tends to support a theory advanced by Ben Bernanke the chairman of Mr. Bush's Council of Economic Advisers. He has suggested that a global savings glut is flooding America with cheap money, and that the government deficits may in large part have been mopping up surplus capital that would otherwise have been borrowed by America's already debt-ridden consumers. But even Mr. Bernanke has stressed that deficit-reduction should still be a priority. "Not catastrophic" seems a poor guide me for fiscal policy, government or personal. For now, however, it appears to suit America's politicians and consumers just fine.

128. According to the passage:
- [1] Tom Delay was surprised by the improvement in the American Economy
  - [2] Republicans did not claim credit for improvement in the economy
  - [3] Many voters were prepared to give credit to Mr. Bush for the improvement in the American economy
  - [4] None of the above
129. Which of the following is not a true statement?
- [1] Office of Management and Budget did not change the budget projections
  - [2] Congressional Budget Office revised the budget numbers downwards
  - [3] Projections made by Congressional Budget Office were similar to those of OMB
  - [4] None of the above
130. Which of the following is a correct statement?
- [1] George Bush was the first American President ever during whose tenure there was a deficit budget
  - [2] American history never experienced budget deficit till 2004
  - [3] America had a surplus of \$ 23 billion in 2000 because George Bush was elected President
  - [4] The largest negative growth in American budget took place in 2004
131. Which of the following projected that budget deficit will reach \$ 427 billion?
- [1] Analysts
  - [2] Office of Management and Budget
  - [3] Mr. George Bush
  - [4] Congressional Budget Office
132. According to the passage:
- [1] There is some possibility that the budget will be in balance by 2010
  - [2] There is absolutely no possibility that the budget will be in balance by 2010
  - [3] There is 50% possibility that the budget will be in balance by 2010
  - [4] It is certain that the budget will show surplus by 2010
133. Mr. Bush is of the view that:
- [1] USA needs urgent reforms of social security
  - [2] USA does not need any urgent reforms of social security
  - [3] Bill Clinton was responsible for the sagging federal resources
  - [4] None of the above

134. According to the passage:
- [1] It is not at all likely that social security and Medicare will consume a great deal of federal funds
  - [2] It is certain that social security and Medicare will consume a great deal of federal funds
  - [3] There is some chance that social security and Medicare will consume a great deal of federal funds
  - [4] None of the above
135. Which of the following is not a true statement?
- [1] By 2008 the aged population of USA will begin to become a major burden on the budget
  - [2] By 2008 the burden of caring for the aged population of USA will gradually decline By 2015 the burden of caring for the aged population of USA will peak
  - [3] By 2015, social security, Medicare and health-care for the poor will account for a major part of federal spending
  - [4] None of these

**Directions (Qs. 136 to 142):** Read passage-2 and answer the questions given of the end of the passage. The answers should be based either on the author's views or on inferences drawn from the given passage.

### PASSAGE-2

India's success in the outsourcing business has raised a lot of interest among politicians, business people and trade unions. However, the picture concerning India's economic potential and impact on the global economy is confusing, as people tend to over emphasize either possibilities or threats related to services outsourcing. The rise in offshore outsourcing of various services is mainly due to technological developments that enable efficient transfer of data and information over long distances. India's success in the field is explained by several additional factors. Firstly, India has a large pool of skilled, English-speaking and relatively low-cost labour. Secondly, contrary to most other sectors in the country, the IT/BPO industry has enjoyed a liberal- regulatory environment that has promoted competition and inflow of foreign direct investment (FDI). Moreover, India's geographical location allows it to exploit time zone differences, which is a significant advantage in certain back-office activities.

Large-scale offshore outsourcing of software and business services is a relatively new phenomenon, as only in 1996 did India's exports of IT/BPO services exceed the USD 1 billion mark. However, since then growth in the sector has been impressive, and in 2003 exports exceeded USD 12 billion. The software and business; process outsourcing industry already accounts for about 40% of total services exports from India. Moreover, compared to China, where local enterprises in this sector are still relatively small, in India the largest domestic companies (Tata, Infosys, Wipro) have already expanded their activities into other countries-including China. Thus the biggest Indian companies are already true global players.

The prospects of the Indian software and business process services sector are promising, although the market is continuously changing and new competitors are emerging in Asia and elsewhere. However, while the offshore outsourcing of IT/BPO work will remain an important issue at enterprise level everywhere, the macroeconomic impacts of this industry the Indian economy or at the global level are perhaps smaller than one would expect given the media coverage of the issue. According to the India IT industry association NASSCOM, the IT/BPO sector in India employs less than one million people, which is a negligible number compared to the total workforce. Total sales of the IT/BPO industry in relation to GDP have increased during the last half decade from about 1% to close to 4%, and hence the share of value added (i.e. the GDP share) produced by the sector must be even less. The IT/BPO sector may have important spill over effects on other sectors of the economy, and it certainly, serves as a good example of pro-market reforms. However, factors other than services exports will continue to dominate the overall economic development of India in the coming years.

In similar vein, the development of the Indian service industry is likely to be a smaller threat to the industrial countries than one would expect from the media coverage. The US accounts for about 70-80% (about USD 9 billion) of India's exports of IT/BPO services. However, while this is some 6-7% of total

US imports of business services', imports from India are unlikely to pose a major threat to the US economy and employment. In the Euro area, India's role is evidently much smaller than in the US. In 'fact, there are good reasons to believe that outsourcing is not a zero-sum game, but brings more benefits than costs to all participants, as suggested by the basic theory of international trade. From this perspective it is possible that the Euro area countries have suffered in relative terms from the uneven competitive situation created by offshore outsourcing developments since the mid-1990s. Thus, for example, compared to enterprises in the US and the UK, enterprises in the Euro area-largely due to their exotic language demands - have found it more difficult to cut their costs through offshore outsourcing.

As regards the US and the UK, there is no evidence that they have lost their share of the global market for services. In fact, they both seem to have significantly increased their market share in the 'business services' category. Given their good: external competitiveness, it is perhaps difficult to argue that countries like India could be a major threat to their domestic markets either. As regards the Euro area, the situation seems to be somewhat different, as Germany has managed to retain its market share, while France and Italy lost ground particularly during the 1990s. Thus, although serious problems related to statistics on services trading make any conclusions very tentative, there seems to be some indication that at least some Euro area countries have not been able to make use of the new business opportunities brought about by recent advances in IT technology.

Investment flows into India illustrate well the consequences of the country's inward looking policies. Due to strict regulations effectively limiting foreign ownership, direct and portfolio investment in the Indian economy has been very United. The major exceptions in this respect seem to be some services ("business services" telecommunications, and hotels and restaurants) and the car industry, which have gradually been liberalised and opened up for foreign companies. Due to enhanced competition, imported capital and know-how, the growth performance of these sectors has been impressive. The prominent role of foreign capital is demonstrated by the fact that multinational companies account for almost half of India's exports of business process outsourcing services, although domestic enterprises dominate software exports. In a similar manner, due to stiff competition brought about by a dozen foreign car manufacturers, India's car industry is today one of the most dynamic in the world.

Contrary to India, the Chinese economy has been open to foreign direct investment, which has had a major impact on China's economic growth since the early 1990s. Today, multinational companies account for about half of country's exports. However, as a consequence of very strict requirements concerning the participation of foreigners in equity trading and the fact that the state still holds majority stakes in nearly all listed companies, the role of portfolio investment remains negligible in China as well. In order to summarize the diverse developments in India and China during recent decades, per capita figures on trade and FDI offer a complementary view of the involvement of these countries in the global economy. China's stronger overall economic performance is associated with rapidly increasing per capita trade and significant FDI inflows. In India, for its part it is still difficult to identify any significant changes in these respects.

136. According to the passage:

- [1] Outsourcing' is not at all beneficial to all participants
- [2] Outsourcing is beneficial to all participants
- [3] Outsourcing is beneficial to a few but harmful to most participants
- [4] Outsourcing is beneficial to most, though to may be harmful to a few

137. According to the passage:

- [1] India's policies have brought in limitless foreign direct investment
- [2] India's policies have limited the flow of foreign direct investment
- [3] Telecommunications, hotels and the passenger car industry have not received much .foreign direct investment
- [4] Telecommunication, hotels and the passenger car industry have not had an impressive growth in recent years

138. Which of the following is a false statement?  
[1] Foreign direct investment has had limited impact on China's economic growth  
[2] Share of MNC's in China's exports is not very large.  
[3] Stringent regulations are applied to foreigners participating in equity trading in China  
[4] Portfolio investment is large in China
139. According to the passage:  
[1] The trend in offshore outsourcing of services is increasing  
[2] The trend in offshore outsourcing of services is not increasing  
[3] The outsourcing of services has nothing much to do with technological advancements  
[4] None of the above
140. Which of the following is a true statement?  
[1] Till 1996 India's exports of IT/BPO services were much above USD 1 billion  
[2] Only by 1996 India's exports of IT/BPO services exceeded USD 1 billion  
[3] Since 1996 India's exports of IT/BPO services has not had much growth  
[4] In 1996 India's exports of IT/BPO services exceeded USD 12 billion
141. According to the passage:  
[1] IT/BPO sector in India employs a significantly large percentage of work forces  
[2] IT/BPO sector in India employs a significantly small percentage of work forces  
[3] During the past few years IT/BPO sector in India have contributed a great deal of value-added to GDP  
[4] IT/BPO sector has had very little or no impact on the economy
142. Which of the following is not a true statement?  
[1] The media has exaggerated the threat of Indian services industry to the developed countries  
[2] The major part of IT/BPO services of India goes to the USA  
[3] The US accounts for less than 10% of India's exports of IT/BPO services  
[4] None of these

**Directions (Qs. 143 to 146):** Read passage-3 and answer the questions given at the end of the passage. The answers should be based either on the author's views or inferences drawn from the given passage.

### PASSAGE-3

The music business has long wailed that Internet piracy is destroying its business. Now, it is fighting back on two fronts—first, by driving illegal operators out of business; then by driving as hard a bargain as possible with those firms selling legal downloads. Indeed talks between Microsoft and the major music firms have just broken down because the software company thinks the music business is demanding unreasonable levels of royalties. Things are going better for the major record labels on other fronts. Last week the founder of a popular “peer-to-peer” (P2P) file-sharing program, Sam Yagan, told a Senate committee that his company would soon stop operating in its current form. He explained that eDonkey—which accounts for around, half of all P2P traffic—can no longer afford to fight the music industry in the wake of the Supreme Court's ruling in June against two other P2P firms, Grokster and Stream Cast, which declared that such applications are illegal if they induce users to violate copyright.

As expected, the music industry is now using its legal victory to hound commercial P2P operators out of business. Last month the music industry's trade body sent them threatening letters. WinMix, another P2P network, appears to have shut down, while eDonkey says it plans to start making its users pay for music. Grokster is reportedly on the verge of selling itself to a company called Mashboxx, which has a similar strategy to go legitimate. In Australia last month, a court ruled against Kazaa, another popular file-sharing service, and ordered it to use filters to stop the trading of copyrighted content. Nobody, however, including executives at the major labels, believes that file sharing is defeated. When the industry forced

Napster, the first big file-sharing network, to shut down in 2001 it has since relaunched as a fee-based service—a host of free alternatives sprang up immediately, and that is what will now happen again. Because of the Supreme Court's ruling, says Mr. Yagan, the new P2P services will simply move offshore and underground, and will offer more anonymity. In fact, the Supreme Court's decision is likely to encourage a move towards free, "open-source" P2P applications. Since they do not make money from advertising or bundling software, they are less vulnerable to the accusation that they are illegally inducing piracy for their own benefit. In the first half of 2005, digital-music sales from mobile-phone "ring tones" and legal download services such as 'Apple's iTunes more than tripled compared with last year, and now represent 6% of total music revenues, according to industry estimates released this week.

That rapid growth has restored confidence to the music industry, as have its victories in court. So much confidence, indeed, that some of the major labels are urging Apple's iTunes service—the epitome of success in online music sales so far to shift to variable (i.e., higher) prices from the consistent \$0.99 per track it currently charges in America. That would be a mistake. Despite its rapid growth, the legal market for music on the Internet is still in its infancy. Apple's boss, Steve Jobs, believes that higher prices would stifle legal sales and encourage P2P-based piracy. Microsoft might even deserve better treatment, too. Since the major labels' legal stick will never be completely effective against P2P, it is vital that they also offer an attractive carrot.

143. Which of the following is a true statement?
- [1] Everybody knows that file sharing is a thing of the past
  - [2] Nobody thinks that file sharing will survive
  - [3] Some people think that file sharing is a thing of the past
  - [4] Nobody thinks that file sharing is a thing of the past
144. Which of the following was the first big file-sharing network ?
- [1] Grokster
  - [2] Wimix
  - [3] Kazaa
  - [4] Napster
145. According to the passage :
- [1] Illegal operators are fighting against music business
  - [2] Music business is fighting to get a good deal from legal downloads
  - [3] Music business has destroyed Internet piracy
  - [4] Major music firms are engaged in fruitful talks with Microsoft
146. According to the passage:
- [1] Apple's iTunes are legal down loads
  - [2] Apple's iTunes are not legal down loads
  - [3] Apple's iTunes should increase its current prices
  - [4] Music on the Internet has had a very slow growth

**Directions (Qs. 147 to 162):** Read passage-4 and answer the questions given at the end of the passage. The answers should be based either on the author's views or inferences drawn from the given passage.

#### PASSAGE-4

At its south-east corner, America peters out into something that is neither land nor sea, but a subtropical swamp in between, The Indians who hid in this inaccessible place called it the Pa-hay-Okee, the grassy river. "The blowing gray-gold flow of saw grass in the glittering fresh [glades] ," wrote Peter Mathiessen, a naturalist and novelist, "stretched away forever, north and south, to the mysterious dark hammock isles on the horizon." This is the Everglades, a place once so rich in wildlife that America's greatest bird painter, John James Audubon, described the sun blotted out for minutes at a time by the great flocks of herons and egrets flying past. Now, the Everglades is the site of America's largest civil-engineering project and the world's most expensive environmental clean-up. But this, too, is in danger of petering out into a swamp—one made up of conflicting interests, state ambition and federal indifference. Restoring the Everglades matters for its own sake. But it also matters because, after Hurricane Katrina, the balance

between protecting people from nature, and protecting nature from people, has become an urgent matter of public policy-and this is the place where that policy has been most exhaustively thrashed out. As in New Orleans, the Everglades saw a disastrous flood (in 1928) when a levee broke and thousands died. As in the Everglades, the Louisiana bayou could not absorb the storm surge in part because its natural environment had been degraded by flood-control measures and housing, and could no longer act like a sponge.

The Everglades project is a test of whether it is possible to restore a whole ecosystem, while still allowing cities to keep on growing nearby. If it succeeds, it will be a model for schemes throughout the Americas, including the Gulf coast. If it fails, environmental clean-ups will no doubt continue, says Colonel Robert Carpenter, the man in charge of restoration, but they will be too small to do much more than slow the rate of decline. The whole of south Florida was once one enormous hydrological system, stretching from Orlando to Key West. Abundant rainfall was channeled down the winding Kissimmee river into Lake Okeechobee. From there, water lapped over the southern edge and spread south in a vast curve, moving 100 feet (30 metres) a day, in a sheet flow inches deep but 50 miles (80 km) wide. Stands of saw grass thrived in an imperceptibly undulating landscape of ridges and sloughs, interspersed by teardrop-shaped islands of trees in a pattern that followed the current. A teeming world depended on the tiny changes of elevation. Snails lay their eggs near the base of the grass stems-too high and the grass topples over from the weight, too low and rising water drowns the eggs. The snail kite feeds on this species, its beak curving precisely into the snail's whorl. Fish ripple out as the water rises and congregate as it falls, providing food for wading birds such as the wood stork. But in the 1930s, the Army Corps of Engineers (at the behest of the federal and state governments) built a new levee around Lake Okeechobee to dam the southward flood. In the 1940s, it drained the area to the south to create vast sugar fields. In the 1950s, the corps diverted the river, allowing Miami and Fort Lauderdale to grow on the old riverbed. In the 1960s, the corps crisscrossed the remnants of the grassy river with dykes, ditches and levees.

The river is now in the wrong place and more akin to a series of ponds. These ponds (called water conservation areas) still have sloping, not flat, bottoms, so the water tills south, flooding the ponds' southern parts, while leaving the northern bits dry. At the bottom of each pond, the tree islands drown; at the top, they burn: fire and flood at once. Around 60% of the tree islands have been lost; so has the old landscape of ridges and sloughs. With it have gone the tiny changes of elevation, on which the wild life depended. About half the old Everglades has been taken for cities or farms. If all the rain that falls on southern Florida were channelled into the remaining half, there would be floods. So 1.7 billion gallons a day is pumped from Lake Okeechobee east and west to the Atlantic Ocean and the Gulf of Mexico (where the fresh water duly wrecks the marine environment). And because less water reaches the south of the Everglades National Park, the sea and mangrove swamps are advancing inland at the rate of 12 feet a year.

The old sheet flow has stopped. So the water that remains has to be pumped around in ways that change water levels more abruptly than the vegetation can respond to. Plants that depend on a subtle and flow are dying. The great flocks of waders are gone. Invasive species are appearing, including tropical fish and pythons, which have spectacular fights with the alligators. Underlying everything, argues Tom van Lent, a hydrologist, is a change in the food chain itself. Once it was "primary"; fish ate a mixture of algae and bacteria. Now it is "detrital" : cattails spread everywhere, rotting in the water, and fish feed on the detritus. When something that basic changes, so does everything else. "The ecological system is in a state of near-total collapse," claims John Marshall, a green activist. Enter the Comprehensive Everglades Restoration Plan (CERP), which was signed in December 2000, at the last gasp of the Clinton administration. It was expensive (\$7.8 billion then, at least \$10 billion now), extremely complicated (with 68 projects planned over 30 years) and it demanded a new sort of partnership between state and federal governments, with each side paying half. But it was also popular: it passed by 85-1 in the Senate and it won the support of virtually everyone: greens and property developers, Republicans and Democrats, sugar farmers and fishermen.

Five years later, not a single CERP project has been built. Costs are rising. The coalition has fractured. And the state-federal partnership is not working. In March, Gary Hardesty, CERP's project manager in

Washington, wrote in an internal memo “We have missed almost every milestone. It is different from what we told Congress we would do, and it's not restoration.” The main restoration idea was simple. More water would be reintroduced into the ecosystem and allowed to flow southwards as it used to. But since CERP could not risk floods, the project was also to improve flood control and water supply in Florida's southern cities. Everglades restoration was never going to be that simple. Ideally, as much water as possible would be introduced at the top of the system, just below the agricultural area. But that is impossible. The old river of grass flowed in a southwesterly are, which meant the water flowed slightly faster on the longer, eastern side. This moving wall of water acted as a natural dam : water restraining water. But when the corps moved the river sideways, it destroyed the- watery dam. To let nature take its course would have risked flooding Miami and Fort Lauderdale. So, instead, CERP is aiming to restart about four-fifths of the old current in the lower half of the system. Water from Lake Okeechobee will be pumped through the upper and middle reaches of the glades in a complicated zigzag, :before being piped back into the lower Everglades. Since this-would do nothing to improve the flow in the middle reaches, the plan also calls for removing some of the main dams and canals there. The corps will, for example, punch, boles through the L67 canal that cuts across the river, and raise ;parts of the Tamiami Trail, an east-west road just above the national. park. To stop all this “extra” water flooding the system, it has controversial plans: to store it above and below ground (more on that in a moment). The project, in other words, is an attempt to manage the environment back to health. As Bob Johnson, the chief scientist of Everglades National Park, put it, “it is not a restoration plan’ as such it is really an integrated watershed management plan.” That is why it is complicated and costly. Environmentalists fear a managerial approach is not going to work: the ecosystem is too badly damaged. Much of the system would benefit, of course, but Mr. Johnson points out that restoring four fifths of the old current might not be enough to save the deeply polluted southern estuaries. So even if it were implemented, CERP would not answer all the problems.

147. According to the passage:
- [1] The Kissimmee river is now more like a cluster of ponds
  - [2] The ponds do not have sloping bottoms any more
  - [3] The ponds do-not cause flooding any more
  - [4] None of the above
148. Which of the following is not a true statement?
- [1] The Army of corps of Engineers built a new embankment around Lake Okeechobee
  - [2] The Army of Corps of Engineers diverted the river
  - [3] The sugarcane crisscrossed the grassiy river
  - [4] None of these
149. According to the passage:
- [1] The base of grass stems were too low
  - [2] The grass topples due to the weight of the eggs laid by snails
  - [3] The snails lay eggs in the rising water
  - [4] The snails lay eggs at the elevation
150. According to the passage, Pa-hay-Okee was:
- [1] a naturalist
  - [2] a novelist
  - [3] a naturalist and a novelist
  - [4] None of these
151. Which of the followings is a true statement?
- [1] Everglades project is an experiment to understand the weather conditions
  - [2] Everglades project has proved that the original ecosystem can be restored back while allowing cities to grow
  - [3] Everglades project has proved that the original ecosystem cannot be restored back while allowing cities to grow
  - [4] Everglades project explores to understand if the ecosystem maybe restored while allowing the cities to grow

152. According to the passage:
- [1] Protecting people from nature is less important than protecting nature from people
  - [2] Protecting nature from people is not important
  - [3] Protecting people from nature is very important
  - [4] Protecting people from nature is more important than protecting nature from people
153. Which of the following is not a true statement?
- [1] Peter matthiessen was naturalist and a novelist
  - [2] John James Audobon was not a naturalist
  - [3] Peter Matthiessen was a bird; painter
  - [4] John Mames Audobon was a bird painter
154. According to the passage:
- [1] The snail kite feeds on fish
  - [2] The snail-kite feeds on birds
  - [3] The wood stork feeds on the fish
  - [4] The wood stork feeds on the snails
155. Which of the following is not a true statement ?
- [1] Kissimmee river was once a big hydrological system
  - [2] South Florida experienced abundant rainfall
  - [3] Okeechobee is a winding river
  - [4] From Okeechobee water moved m great height and width
156. According to the-passage:
- [1] Not much damage has taken place to the tree islands
  - [2] Not much damage has taken place to the old landscape of ridges and sloughs
  - [3] Not much damage has taken place to the wildlife
  - [4] Major damage has taken place to the old landscape of ridges and sloughs
157. Which of the following is a true statement?
- [1] If all the rain that falls on South Florida were channelled into Everglades, floods would be avoided
  - [2] Not much water is pumped from Lake Okeechobee to the Atlantic Ocean and the Gulf of Mexico
  - [3] The fresh water destroys the marine environment of the Atlantic Ocean and the Gulf of Mexico
  - [4] None of the above
158. Which of the following is not a true statement?
- [1] The vegetation of the Everglades National Park has not been affected adversely
  - [2] The vegetation of the Everglades national park has been affected adversely
  - [3] Tropical fish and pythons fight with alligators
  - [4] Tropical fish and pythons are aggressive species
159. Which of the following is not a true statement?
- [1] CERP was a very popular document signed during
  - [2] CERP was based on an equal partnership between the state and federal governments
  - [3] CERP project has proved to be a major success so
  - [4] None of the above.
160. According to the passage:-
- [1] Everglades restoration would be a very complex process
  - [2] Everglades restoration would not be a very complex process
  - [3] It was not difficult to introduce a great deal of water just below the agricultural area
  - [4] The water dam was restored by the Army Corps of Engineers

161. Which of the following is a true statement?
- [1] Water from Lake Okeechobee will not be pumped through the upper reaches of the glades
  - [2] Water from Lake Okeechobee will be pumped through the upper reaches of the glades
  - [3] Water from Lake Okeechobee will be not pumped through the middle reaches of the glades
  - [4] None of the above
162. Who is the chief scientist of Everglades National Park?
- [1] Gary Hardesty
  - [2] Ton van Lent
  - [3] Bob Johnson
  - [4] Colonel Robert Carpenter

**Directions (Qs.163 to 175):** Read passage-5 and answer the questions given at the end of the passage. The answers should i.e. based either on the author's views or inferences drawn from the given passage.

### PASSAGE-5

The systems perspective, applied to organizations in its classic formulations as an organic or a cybernetic model, is open to criticism for failing to give a sufficient account of change. In the organic model, change is seen primarily as an adaptive response, by the system, acting as a whole or through subsystems with specific functions, to maintain itself in balance with a shifting environment. Change is thus externalised beyond the system boundary. The organism's response is characterized as a negative feedback process by means of which a control centre becomes aware of a disparity between actual and desired behaviour in response to them.

When the organic model is generalized to apply to organizations, the emphasis on boundary, environment, feedback and adaptive response are carried over, and management is readily identified as the control centre, which derelicts the organization operations. However, organizations do not possess the same unity or consistency of form as organisms. Their external boundaries, as well as internal boundaries between subsystems, are less evident and less fixed. Responses to internal and external problem situations are not generally pre-set or inbuilt, but have to be invented. Applied uncritically, the model attributes too central a role to management and overestimates management's power to control events and actions. Direction of operations comes not from an integrated control centre but from a multiplicity of factors whose behaviour is not merely adaptive but also creative and contentious.

The cybernetic model provides a more elaborate account of control and communication mechanisms organized hierarchically and recursively and distributed throughout the system. It also includes an environmental scanning function, which opens up the possibility of proactive change in the system. Nevertheless at though change becomes a subtler, complex and generalized phenomenon in this model, changes are still seen as adjustments, whether reactive or proactive, which serve to maintain or increase order in the system. Nor is it any easier to relate change to human agency in the cybernetic model than in the organic.

In the "soft systems" approach articulated by Checkland, attention shifts from the actual constitution of organizations as complex systems towards organizational actors', organizational actors' understandings and formulations of problem situations. This is a view, which allows and expect multiple interpretations of the world at hand. When soft systems methodology (SSM) is applied to a problem situation in an organization, it culminates in a debate, which aims to define changes, which are "systemically desirable and culturally feasible". The human role in defining (and subsequently carrying out) changes is thus recognized.

The soft systems approach makes changes more central to organizational life than it is in the harder approaches sketch above, which focus on the systems capacity to cope with and respond to environmental perturbations. Change now becomes something, which flows from human understanding and decision-

making, which is not in general prefigured or automatic, and which involves negotiation by competing parties. However, some of the legacy of the earlier systems views persists in the soft systems approach and methodology, and serves to prevent fuller appreciation of the nature of change in organizational life. For instance, the central notion of transformation in the methodology relates still to the transformers on of inputs into outputs by the system, rather than to transformation analyst alone, so that some of the most important interpretations in the changes exercise are supplied by external experts. When the conceptual model is brought forward by the analyst for organizational debate, the voice of management is likely to be dominant, again restricting opportunity for a more thorough in review of possibilities. Thus, even though the soft systems approach brings change to the centre of the organizational stage by focusing on human activity systems and embracing the interpretive standpoint, change is still characterized as a discontinuous step from an old order to a new one, facilitated by the alchemy of the analyst, and sanctioned by management.

In the systems tradition as discussed so far, there is a common interest in how complex systems achieve, maintain and increase order, in a turbulent environment, which threatens to invade or dissolve them. In the organic change is essentially an external threat to be responded to Richer notions of change are

developed in the cybernetic and soft systems approaches, but still, change is seen as a way of preserving or improving order in the systems concepts to organizational models, the Identification of control with management has produced an impression that organizational change must be managed, and that managers, in alliance with experts, can and should manage change.

It has always been clear that organizations are not organisms, but the limitations of applying the organic metaphor have only become obvious relatively recently, when the pace of organizational models based on central control, stability and bureaucracy. It may be that continuous change is an essential feature of organizations or it may be that disorder is not only tolerable in organizations but also natural and productive. To contemplate these possibilities, it is necessary to go beyond the familiar systems models and at the same time to question ideas of change management.

Kiel, following an earlier formulation by Jantsch, describes three stages in the development of models of organizational change. The first stage, deterministic change, is a mechanical or linear view, which equates to a pre-systems or early systems view of organizations as machines subject to rational control. The second stage, equilibrium-based change, is essentially the systems perspective, especially as represented by the organic or cybernetic models. The third stage, dissipative or transformational change, views organizations as dynamic self-organizing systems capable of radical transformations change, view organizations as and continually moving between order and between stability and instability. Organizational models in this third stage go beyond (or may be seen to extend the systems tradition, drawing on theories of chaos, complexity and self-organizations from the natural sciences. New holistic theories of change are emerging which challenge the centrality of order and control in complex systems.

According to these theories, many complex systems are non-linear, i.e. systems in which relationships between cause and effect are not constant. Therefore, small inputs can sometimes lead to disproportionately large consequences (and at other times not), and small variations in initial conditions can sometimes produce large variations in outcomes (and sometimes not). Generally, processes cannot be fully controlled or planned, and cannot be run back and repeated. Many natural systems, including ecologies and the weather, are non-linear. They are characterized by complex multiple patterns of interactions which combine with random disturbances to produce unpredictable events that will sometimes transform the system into an entirely new configuration. In general, as they move from one relatively stable region of behaviour to another, such systems pass through a chaotic transition phase. A system far from equilibrium and at the edge of chaos is one on the point of transformative change, but the future state of the system is not predictable.

It seems attractive to adopt a transformational model of organizational change derived from these more general ideas of dynamic non-linear systems. The complexity, uncertainty and centrality of change processes seem much better captured in this kind of model than in earlier systems models. However, it

should be remembered that just as organizations are not organisms neither are they weather systems or whirlpools. Organizations are constituted by people, not particles. Change is produced not by the complex interaction of effectively structure less atoms, but by the meaningful and value-laden interaction of already complex individual human beings.

Though it may indeed be fruitful to see organizations as non-linear systems, to do so will require a fundamental shift in our understanding of the role and limits of control and likewise of the role and limits of management. It would for instance be fallacious to assume that management can apply the transformational model in order to produce a desirable transformation in their organization, since this would be to treat non-linear systems as though they were linear (and so predictable and controllable). Another danger is that by simply adopting the language of non-linear systems we will produce a spurious jargon and mystification that will lead neither to increased understanding nor to practical action in organizational life. The theories of chaos and complexity are seductive, and can easily lead you into a world of butterfly effects, strange attractors and NK fitness landscapes. Nevertheless, a cautious and sober application of them might prove fruitful in our area of interest.

163. Choose the correct statement from the following
- [1] Cybernetic model focuses on actors' understanding and formulations of problem situations
  - [2] Organic model focuses on actors' understanding and formulations of problem situations
  - [3] Soft systems approach focuses on actors' understanding and formulations of problem situations
  - [4] Soft systems approach focuses on organizations as complex systems
164. Which of the following assumptions may be made from the passage?
- [1] Processes can be fully planned
  - [2] Many natural systems are characterised by complex patterns of interaction
  - [3] People are particles of organisations
  - [4] Change is produced by complex interactions of atoms
165. According to the passage, which of the following is, not a correct statement?
- [1] In the organic model, change is viewed as an external threat
  - [2] In the cybernetic model, change is viewed as a way of improving
  - [3] In the cybernetic model and in the soft approach change is seen as a fundamental features of the system
  - [4] In the soft system approach, is change is viewed is as a way of improving order in the system
166. The systems model has been criticised because it
- [1] failed to provide a satisfactory account of change
  - [2] revealed the classic dimension of the organic model
  - [3] did not respond to negative feedback
  - [4] refused to look beyond the system.
167. Which pf the following is correct statement?.
- [1] Deterministic change is the systems perspective
  - [2] Equilibrium-based change is the systems approach
  - [3] Equilibrium-based change is mechanical view
  - [4] Transformational change is a mechanical view
168. Which of the following is not a correct statement?
- [1] Change is primarily a response to then environment
  - [2] The system, as a whole or the Sub-systems adapt to the environment
  - [3] The environment is not stable
  - [4] Change cannot be externalised beyond the system boundary

169. According to the passage change:  
[1] does not flow from human understanding or decision making  
[2] is generally prefigured  
[3] is automatic  
[4] involves negotiation by competing parties
170. The organic model assumes that:  
[1] the organism's response is negative  
[2] a control centre influences behaviour  
[3] the organism is able to adjust its behaviour  
[4] the organism is notable to detect significant disparities
171. Change is seen following is not a correct statement?  
[1] cybernetic model  
[2] organic mode  
[3] soft systems approach  
[4] harder approaches
172. Which of the following is not a correct statement?  
[1] Management is seen as the control centre of organizations  
[2] Organic model uses concepts of boundary and adaptive response  
[3] The organic model views management as apart of environment  
[4] Organisations are not totally comparable to organisms
173. Which of the following is not a correct statement?  
[1] Cybernetic model recognises human role in defining change  
[2] Organic model does not recognise, human role in defining change  
[3] Soft systems, approach recognises human role in defining change  
[4] Soft systems approach defines changes, which are systemically feasible.
174. According to the passage:  
[1] cybernetic model is more realistic:  
[2] organic model is more realistic:  
[3] organic model is as realistic as the cybernetic model  
[4] cybernetic model is as realistic as the organic model
175. Which of t following is a correct statement?  
[1] Cybernetic model takes better care of environmental factors  
[2] Organic model takes .better care of environmental factors  
[3] Cybernetic model is not suitable for proactive change  
[4] Organic model is suitable for proactive change

