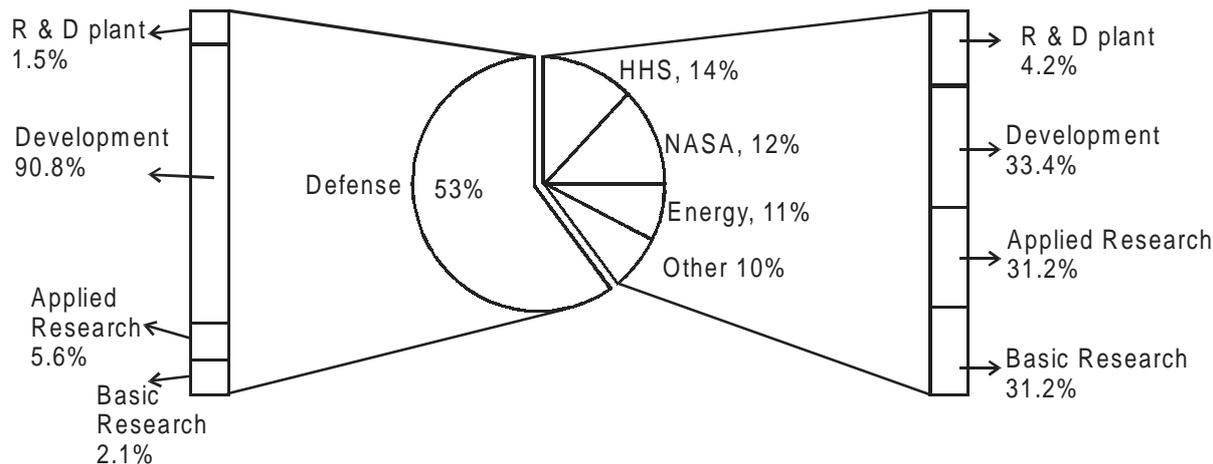


Section – III

Directions for questions 101 to 104: Answer the questions based on the following information.

The following graph gives the break-up of the Federal Research and Development Budget for 2001 across Defence, Health and Human Services (HHS), NASA, Energy and others. Further, the graph also shows the difference in the deployment of the budget by Defence and sectors other than Defence across various aspects of research, viz. Basic Research, Applied Research, Development and R & D plant.



The Federal Research and Development Budget for 2001 was \$66.7 billion.

101. The ratio of the budgeted amount for Applied Research by the Defence to the budgeted amount for Development by sectors other than Defence is
 - a. 1 : 5.3
 - b. 1 : 4.7
 - c. 1 : 6.6
 - d. Cannot be determined

102. By what percentage is the budgeted amount for Development by Defence higher than the total budgeted amount for sectors other than Defence?
 - a. 2.5%
 - b. 205%
 - c. 20.5%
 - d. Cannot be determined

103. If the Federal Research and Development Budget in 2002 increases by 10% over that of 2001, by what percentage will the budget for Basic Research by Defence increase?
 - a. Will remain the same
 - b. 10%
 - c. 12.31%
 - d. Cannot be determined

104. In the Federal Research and Development Budget for 2001, what is the ratio of the budgeted amount for Basic Research and that for Applied Research?
 - a. 1 : 1.11
 - b. 1.11 : 1
 - c. 1 : 7.2
 - d. Cannot be determined

Directions for questions 105 to 108: Answer the questions based on the following information.

The following table gives the vital statistics of Infosys for the years 1999 and 2000. All figures are in rupees in millions.

	2000	1999
Revenue		
Exports	13215	5981
Domestic	171	68
TOTAL	13386	6049
Expense		
Staff costs	5098	2267
Other expenditure	3104	1464
Total	8202	3731

Further, the break-up of total revenue from exports (in percentage) in 2000 across various product groups is given in the following table

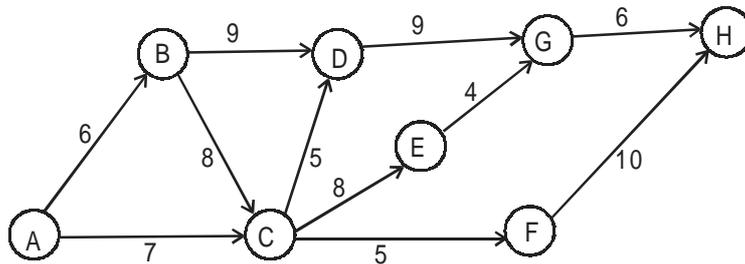
Product group	Percentage of total revenue
Distributed system	43.8
Mainframe	14.0
Internet	29.5
Propriety telecom	5.5
Others	7.2

105. In 2000, if CAD/CAM forms 70% of the revenue from other product groups, what percentage of the total revenue is earned from CAD/CAM in 2000?
 a. 5.05% b. 7.1% c. 4.9% d. Cannot be determined
106. If the revenue from exports across different product groups were to be represented by a pie-chart, what angle would the sector depicting export earnings from Internet form at the centre of the pie-chart in year 2000?
 a. 108° b. 106.5° c. 105° d. Cannot be determined
107. If Operating Profit is defined as Revenue – Expenses and OPM (Operating Profit Margin) as the Operating Profit as a percentage of Revenue, then which of the following statements is true?
 a. The OPM for 1999 was greater than that for 2000
 b. The OPM for 2000 was greater than that for 1999
 c. The OPM for year 1999 and 2000 was equal
 d. Data insufficient

108. If the export revenue from Mainframe increased by 121% in 2000 over that in 1999, what percentage of the export revenue in 1999 was accounted for by Mainframe?
- a. 6.33% b. 16.94% c. 14% d. Cannot be determined

Directions for questions 109 to 111: Answer the questions based on the following information.

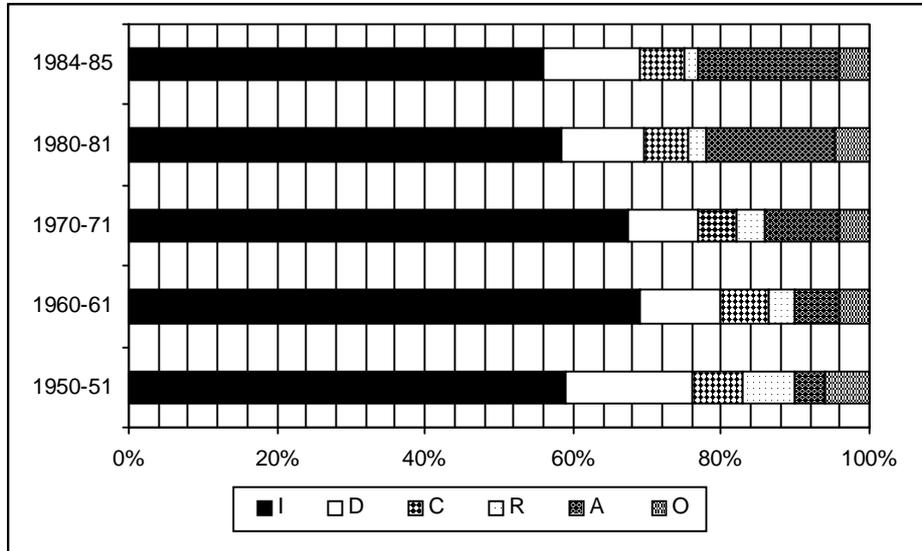
The process of manufacturing of a unit of a certain product is shown in the network. The manufacturing process starts by processing raw material A to intermediate products B and C. The numbers given represent the time taken (in minutes) for each activity, e.g. it takes 6 min to process A to make B and 7 min to process A to make C. However, to make C, B is also an input and it takes 8 min to process B to make C. Thus, one unit of C will be ready only after $(6 + 8 =) 14$ min from start. The end product is H. If the multiple sequences are possible to manufacture a product, the sequence taking the largest time will be considered as the product manufacturing time.



109. How much time would it take to manufacture 25 units of H?
- a. 77 hr b. 32 hr, 5 min c. 14 hr, 10 min d. 34 hr
110. All the processes are done by a single machine. The machine can be used only for a maximum of 10 hr everyday and that too only after giving the machine a break of 10 min after every 10 units of H is produced. What is the maximum number of units of H that can be produced in a week of six working days?
- a. 54 b. 102 c. 119 d. Data insufficient
111. If the duration of the activity, B – D, is reduced by 3 min and that of activities G – H and F – H are increased by 2 min and 4 min respectively, what will be the approximate percentage change in time taken to produce one unit of H?
- a. 5.9% increase b. 5.9% decrease c. 5.2% increase d. 5.2% decrease

Directions for questions 112 to 115: Answer the questions based on the following information.

The graph below shows the pattern of power utilization in India across the decades for the period 1951-1985. The graph gives the percentage consumption by various sectors. I, D, C, R, A and O refer to Industry, Domestic, Commercial, Rural, Agriculture and Others.



112. In 1980-81, power utilized by agriculture sector was what percentage of the power utilized by industrial and commercial sectors together?
 a. 20% b. 28% c. 35% d. 40%
113. If the total consumption in 1980-81 was 1,20,000 million kwh and in 1984-85 was 1,70,000 million kwh, how much did the consumption by the industrial sector increase during this period?
 a. 15 billion kwh b. 25 billion kwh c. 32 billion kwh d. 35 billion kwh
114. If the total power consumption in 1970-71 was 60,000 million kwh and in 1984-85 was 1,70,000 million kwh, how many times is the consumption of commercial sector in 1984-85 to the consumption of agriculture sector in 1970-71?
 a. 2.833 times b. 4.722 times c. 1.7 times d. Cannot be determined
115. If the power supply to charitable institutions and other social service units at concessional rates constitute 30% of the supply to others and they pay Rs. 1.25 per kwh, what was the revenue generated from these units and institutes in 1984-85? (Use data from previous questions, if necessary)
 a. Rs. 2.5 crore b. Rs. 25 crore c. Rs. 250 crore d. None of these

Directions for questions 116 to 119: Answer the questions based on the following information.

Five boys — A, B, C, D and E — went on a shopping trip. Before shopping, one boy had Rs. 400, one had Rs. 300, two boys had Rs. 200 each and one had Rs. 100. While shopping they did not lend or borrow from each other. After the shopping was over, it was observed that they were left with Rs. 165, Rs. 95,

Rs. 70, Rs. 40 and Rs. 10, not necessarily in this order. Further, the following is known about the money they started with, they spent, or they were left with.

- I. A started with more money than D.
- II. B spent Rs. 15 more than C.
- III. E started with more money than just one another person of the group.
- IV. A spent the most but did not end with the least.
- V. C started with 66.66% of the money that B started with.
- VI. D spent the least and ended with more than A and C.
- VII. E spent Rs. 35.

116. Who ended with the maximum amount of money?

- a. A b. B c. C d. E

117. How much money did A spend?

- a. Rs. 205 b. Rs. 190 c. Rs. 35 d. Rs. 360

118. In ascending order of spending, E would rank at which position?

- a. 1 b. 2 c. 4 d. 5

119. Who ended with Rs. 40?

- a. A b. B c. C d. D

Directions for questions 120 to 123: Answer the questions based on the following information.

Inhabitants of the island 'Sach Jooth' always answer any question only with Yes or No. A, B, C and D are owners of a holiday resort, a palm grove, a supermarket and a water sports centre, but not necessarily in that order. D is not the owner of the supermarket. Each was asked each of the following questions in order.

- I. Are you the owner of the holiday resort?
- II. Are you the owner of the supermarket or the palm grove?
- III. Are you the owner of the supermarket or water sports centre?

The inhabitants gave the following answers, again in order. At least two of the three answers given by each inhabitant were true.

- A: Yes, Yes, No
B: Yes, No, Yes
C: No, Yes, Yes
D: No, No, Yes

120. A's answers were

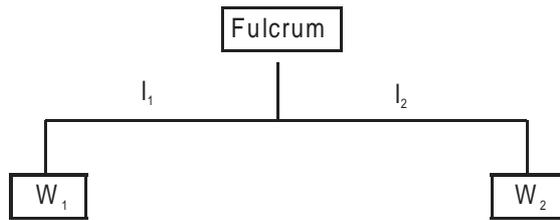
- a. True, True, True b. True, True, False
c. True, False, True d. False, True, True

121. B's answers were

- a. True, True, True b. True, True, False
c. True, False, True d. False, True, True

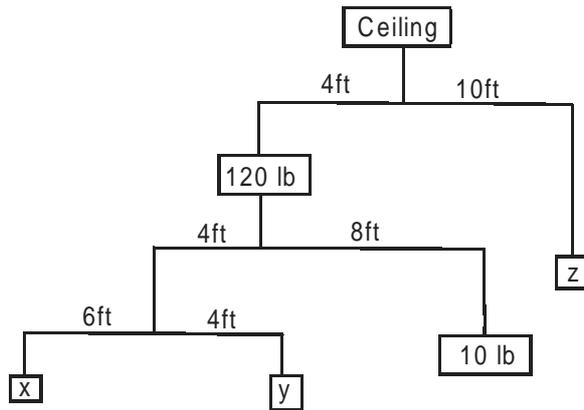
122. Which inhabitant gave no wrong answer?
 a. A, B and D
 b. C and D
 c. B
 d. A and C
123. D's answers were
 a. True, True, True
 b. True, True, False
 c. True, False, True
 d. False, True, True

Directions for questions 124 and 125: Answer the questions based on the following information.
 Any balance of the type shown below is balanced if $l_1 \times w_1 = l_2 \times w_2$



The force that each weight exerts at the fulcrum is product of the weight and its horizontal distance from the fulcrum.

Consider a complex balance as shown below.



The above complex balance is perfectly balanced.

124. What is the value of x?
 a. 12 lb
 b. 8 lb
 c. 60 lb
 d. 14 lb
125. What is the value of z?
 a. 12 lb
 b. 20 lb
 c. 14 lb
 d. 60 lb

Directions for questions 126 to 130: Answer the questions based on the following information.

Company A and company B are two rival enterprises operating in the same market segment. Company A can adopt any one of X, Y, or Z strategy, and company B can, in turn, adopt one of P, Q, or R strategy. The following table gives the pay-off to company A depending on which strategy it adopts and which strategy company B adopts in response. A positive sign indicates that company A gains and company B loses whereas a negative sign indicates company A loses and company B gains.

Pay-off to company A				
		Strategy that company B adopts		
		P	Q	R
Strategy that company A adopts	X	-4000	5000	-6000
	Y	5800	-5200	5500
	Z	-6200	4500	-6500

Further, both company A and company B incur a cost in adopting any of the strategies and the costs are given in the following table.

Cost to company A			Cost to company B		
X	Y	Z	P	Q	R
500	3000	1500	1400	200	2800

126. Which strategy should company A adopt such that whatever is company B's response, it will always make a net profit even after deducting the cost incurred?
 - a. X
 - b. Y
 - c. Z
 - d. Such a situation is not possible

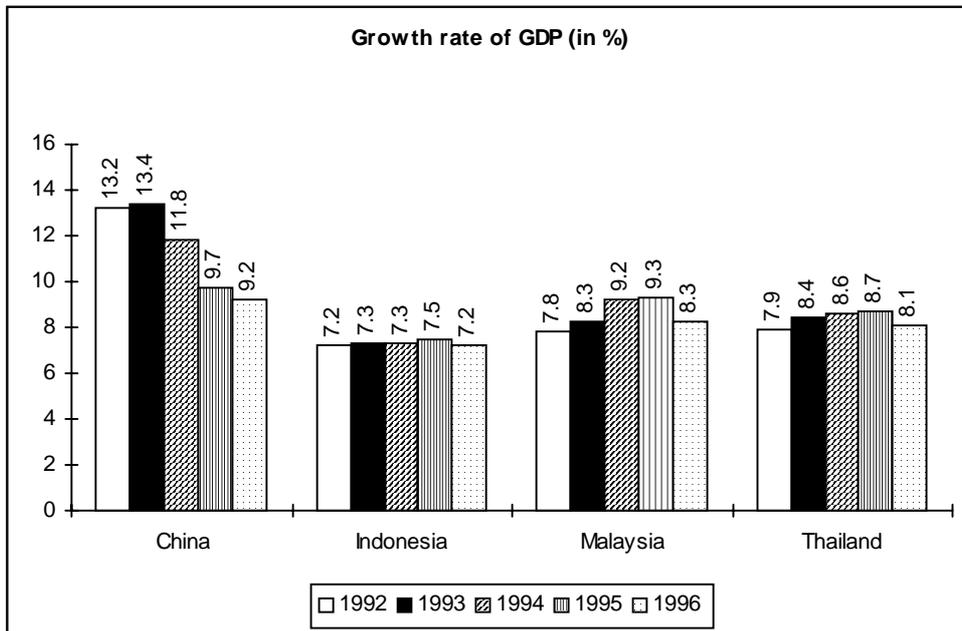
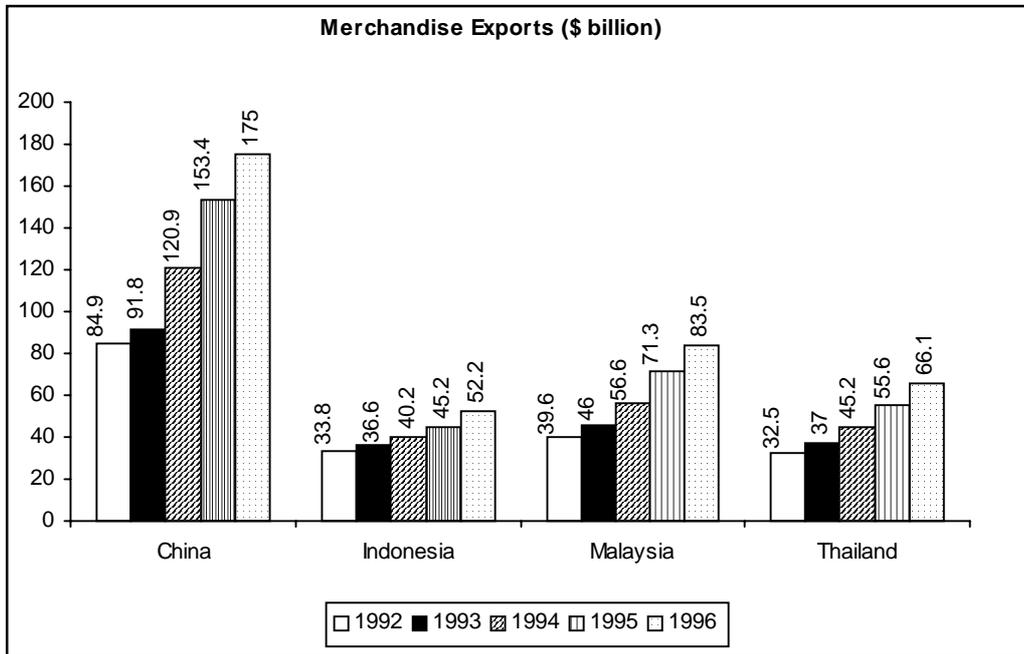
127. If company A has very good cash flow and is aggressive and its sole objective is to maximize the losses or at least minimize the gains of company B, which strategy should company A adopt?
 - a. X
 - b. Y
 - c. Z
 - d. Either X or Y

128. What is the maximum loss that company B can incur?
 - a. 7200
 - b. 8300
 - c. 6500
 - d. 5800

129. What is the difference between the maximum gain that company B and that company A can make?
 - a. 500
 - b. 700
 - c. 12500
 - d. 13200

130. Company A has to act first by choosing a strategy and then company B will respond, i.e. company B has an advantage of knowing what strategy A has adopted. In such a situation, which strategy should company A adopt such that the 'advantage' to company B is least? ('Advantage' is defined as the sum of the gain of company B and the loss of company A.)
 - a. X
 - b. Y
 - c. Z
 - d. Either Y or Z

Directions for questions 131 to 133: Answer the questions based on the following information. The following two graphs depict the Merchandise Exports (dollars in billions) and the growth rate of GDP over the previous year (in percentage) for China, Indonesia, Malaysia and Thailand from 1992 to 1996.



131. If the GDP of Indonesia in 1992 was \$60 billion and that of China was \$181 billion, what was the approximate difference between China's GDP and Indonesia's GDP in 1993?
- a. \$120 billion b. \$140 billion c. \$160 billion d. \$180 billion

132. If the GDP of Malaysia in 1992 was \$50 billion, compared to 1992, the ratio of Merchandise Exports to GDP of Malaysia in 1993
 a. increased b. decreased c. remains the same d. Cannot be determined
133. In which of the following years did Thailand have the least ratio of Merchandise Exports to GDP?
 (Given that GDP is always greater than exports)
 a. 1992 b. 1993 c. 1996 d. Cannot be determined

Directions for questions 134 to 137: Answer the questions based on the following information.

The following table gives the scores of 28 students studying in a class in Vidya Mandir. HW1, HW2, Mid-term and Final refer to the marks scored in homework assignment 1, homework assignment 2, mid-term examinations and final examination. The net score for a student is calculated as the weighted average of HW1, HW2, Mid-term and Final with weightages of 10%, 10%, 30% and 50% respectively.

Student ID	HW1	HW2	Mid-term	Final
20051300	50	100	70	52
20104335	50	94	56	73
20104398	60	0	44	59
20104714	100	79	74	77
20202265	60	70	74	62
20202820	80	100	53	22
20202827	85	100	64	76
20202851	70	0	50	50
20202860	90	100	63	67
20202928	80	100	65	67
20202956	70	85	61	47
95014260	30	79	58	27
95021970	90	100	76	44
95022950	80	100	79	78
96015960	100	85	62	74
97020890	0	0	36	71
97021000	100	100	95	77
97021080	100	75	66	66
98030170	70	85	62	66
98032640	100	100	59	73
98037070	60	100	40	60
98037220	100	85	77	88
98037260	70	80	56	47
98047660	90	100	89	56
98052760	90	100	72	60
99039570	10	63	60	67
99050080	80	94	54	36
99050120	70	100	0	0

134. Which roll number has topped the class with maximum net score?
 a. 20104714 b. 95022950 c. 97021000 d. 98037220

- V. If E is selected, M has to be selected and vice versa.
 VI. L cannot be with O.
142. If the team consists of one lecturer, two engineers and three doctors, the members of the team are
 a. BELMPA b. ALEDPQ c. AELMPQ d. ADEMPQ
143. If the team consists of two male lecturers, two lady doctors and one engineer, the members of the team are
 a. ABLPQ b. ABLEQ c. AQBLO d. ABLOP
144. If the team consists of two lecturers, two engineers, two doctors and not more than three women, the members of the team will be one of the following choices :
 a. ABELPQ b. ABCLPQ c. ABCLMQ d. ABELNQ

Direction for 145 and 146: Answer the questions based on the following information.

A is taller than B who is taller than C. D is taller than E. No two among A, B, C, D and E are equally tall.

145. Which of the following is not possible?
 a. B is the third in the descending order of height
 b. A is not the tallest, but C is the shortest
 c. D is taller than B, and E is shorter than C
 d. A is not the tallest, but C is the third in the ascending order of height
146. Which of the following is possible?
 a. D is shorter than B, but E is taller than C
 b. E is the tallest
 c. A is not the tallest, but D is shorter than B
 d. C is taller than D, and E is taller than B

Directions for questions 147 to 150: Each question consists of a question and two statements, I and II. Choose

- a. if one of the two statements (I or II) alone is sufficient to answer the question, but cannot be answered by using the other statement alone.
 b. if each statement alone is sufficient to answer the question asked.
 c. if I and II together are sufficient to answer the question but neither statement alone is sufficient.
 d. if even I and II together are not sufficient to answer the question.
147. If the average weight of five friends A, B, C, D and E is 52 kg, then who is the heaviest among them?
 I. A and E are neither the heaviest nor the lightest and only two friends among A, B, C, D and E have their weights more than the average.
 II. B's weight is 40 kg, which is the lightest weight. The average of weight of D and E is 60 kg and the average weight of C and A is 50 kg.
148. There are five members in a family — three children and their parents. What is the age of the father?
 I. The age of father is three times the sum of the ages of two elder children and 11 years more than the sum of the squares of the ages of two younger children.
 II. The average age of the family is 21 years and the mother's age is greater than 40 years but less than father's age.

149. P, Q and R are three contestants, and they are participating in 100 m relay race. Who gets the first prize?
- I. P gets either the third prize or the second prize, and R gets either the second prize or the first prize.
 - II. P, Q and R are only contestants, and Q does not get the third prize.
150. P, Q, R, S, T and U sit around a circular table facing to the centre. Who sits between P and R?
- I. P sits immediately left to U, and R sits immediately right to S around the circular table.
 - II. T and R cannot sit together, and only one person sits between P and R.