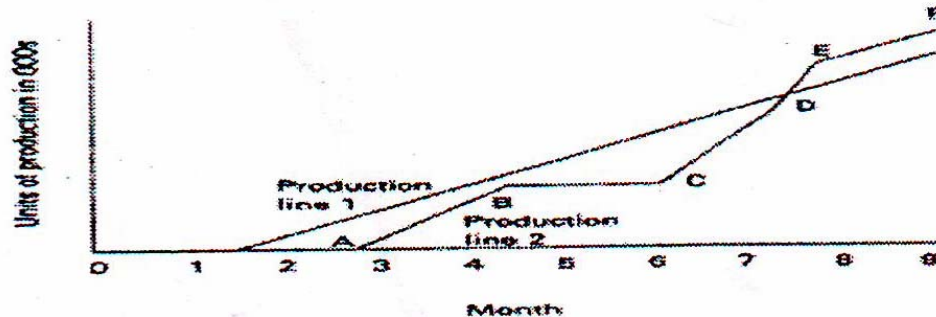


**QUANTITATIVE AND DATA INTERPRETATION & SUFFICIENCY SECTION**

For the following 5 questions in this section, correct answers carry 2 marks each.

66. A factory is to commission two production lines. Production line 1 is to use existing technology. Production line 2 is to use the latest innovations in technology and, while promising to achieve considerable advances in productivity, it will take longer to start and is likely to experience teething problems. Graph indicates the productive record of each product line refer to graph to answer the following



- A. Can the duration of reported breakdown be established?  
 B. Can the loss of production be quantified?
- (a) Both questions A and B can be answered      **(b) Only A question can be answered**  
 (c) Only B question can be answered              (d) Neither question can be answered
67. From a book, a number of consecutive pages are missing. The sum of the page numbers of these pages is 9808. Which pages are missing?  
 (a) The page 9808 is missing.  
 (b) The pages 291 up to 322 are missing.  
**(c) The pages 291 up to and including 322 are missing.**  
 (d) Either a or c
68. In the following series find the one number that is wrong  
 2, 3, 13, 37, 86, 167, 288  
 (a) 3                              **(b) 13**                              (c) 37                              (d) 86
69. Two sea trawlers left a sea port simultaneously in two mutually perpendicular directions. Half an hour later, the shortest distance between them was 17 km, and another 15 minutes later, one sea trawler was 10.5 km farther from the origin than the other. Find the speed of each sea trawler.  
**(a) 16 km/h, 30 km/h**      (b) 18 km/h, 24 km/h      (c) 20 km/h, 22 km/h      (d) 18 km/h, 36 km/h

70. The image below indicates the number of residents at 5 hotels on 1 Feb and 1 July 1998. Which hotel had the greatest increase in the total number of adult residents on 1 July 1998 compared with 1 Feb of that year?

01 – Feb – 98				
Hotel	Female Adults	Male Adults	Female Children	Male Children
V	32	64	8	11
W	11	28	3	2
X	47	84	14	7
Y	22	42	5	6
Z	63	104	18	23

01 – Jul – 98				
Hotel	Female Adults	Male Adults	Female Children	Male Children
V	41	73	16	14
W	18	37	7	6
X	47	92	12	17
Y	37	59	19	13
Z	81	112	26	20

- (a) V (b) W (c) Y (d) Z
71. This question consists of a question and two statements numbered I and II. Decide whether the data given in the statements are sufficient to answer the question.  
 What is the 57<sup>th</sup> number in a series of numbers?  
 I. Each number in the series is three more than the preceding number.  
 II. The tenth number in the series is 29.
- (a) The data in Statement I alone is sufficient to answer the question while the data in Statement II alone is not sufficient to answer the question.  
 (b) The data in Statement II alone is sufficient to answer the question, while the data in Statement I alone is not sufficient to answer the question.  
 (c) If the data either in Statement I or Statement II alone are sufficient to answer the question.  
 (d) If the data in both Statement I and II together is necessary to answer the question.
72. The cost of leveling and turfing a square field at Rs. 160 per hectare is Rs. 2624.40. The cost of surrounding it with a railing costing 25 paise per metre is:  
 (a) Rs. 350 (b) Rs. 375 (c) Rs. 400 (d) Rs. 405
73. When the Sun ray's inclination increases from 30° to 60°, the length of the shadow of a tower decreases by 60 m. Find the height of the tower.  
 (a) 50.9 m (b) 51.96 m (c) 48.8 m (d) None of these

**Directions for question No. 74 – 77:** A survey of movie goers from five cities A, B, C, D and E is summarized below. The first column gives the percentage of viewers in each city who watch less than one movie a week. The second column gives the total number of viewers who view one or more movies per week.

City	I	II
A	60	2400
B	20	3000
C	85	2400
D	55	2700
E	75	8000

74. How many viewers in city C watch less than one movie a week?  
 (a) 2040 (b) 13600 (c) 16000 (d) 3600
75. Which city has the highest number of viewers who watch less than one movie a week?  
 (a) City E (b) City D (c) City B (d) City C

76. A city with the second lowest number of movie watchers is  
 (a) City E (b) City D (c) City B (d) City C
77. The total number of all movie goers in the five cities who watch less than one movie per week is  
 (a) 50000 (b) 36000 (c) 18500 (d) 45250
78. The 288<sup>th</sup> term of the sequence a, b, b, c, c, c, d, d, d, d, ... is  
 (a) u (b) v (c) w (d) x
79. The inequality of  $p^2 + 5 < 5p + 14$  can be satisfied if:  
 (a)  $p \leq 6, p = -1$  (b)  $p = 6, p = -2$  (c)  $p \leq 6, p \leq 1$  (d)  $p \geq 6, p = 1$
80. Answer the question based on the following table.

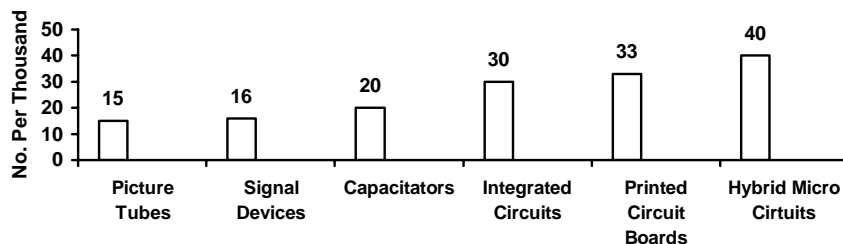
Relative Sweeteners of Different Substances			
Lactose	0.16	Maltose	0.32
Glucose	0.74	Sucrose	1.00
Saccharin	675.00		

- What is the ratio of glucose to lactose in a mixture as sweet as maltose?  
 (a) 8 : 21 (b) 1 : 3 (c) 3 : 2 (d) 16 : 9
81. A colourless cube is painted blue and then cut parallel to sides to form two rectangles solids of equal volume. What percentage of surface area of each of new solids is not painted blue?  
 (a) 25 (b) 16 (c) 20 (d) 18
82. There are 10 stations on a railway line. The number of different journey tickets that are required by the authorities is  
 (a) 10! (b) 90 (c) 81 (d) 10
83. A and B throw one dice for a stake of Rs. 11, which is to be won by the player who first throws a six. The game ends when the stake is won by A or B. If A has the first throw, what are their respective expectations?  
 (a) 5 and 6 (b) 6 and 5 (c) 11 and 0 (d) 10 and 1
84. Which investment gives a better return, assuming the face value of shares to be Rs. 10?  
 A. 5% stock at 75, subject to 30% income tax  
 B. 4% stock at 90, tax free  
 (a) B (b) A (c) Both A and B (d) None of these
85. Four stacks containing equal number of chips are to be made from 11 orange, 9 white, 13 black and 7 yellow chips. If all of these chips are used and each stack contains at least one chip of each colour, what is the maximum number of white chips in any one stack?  
 (a) 3 (b) 4 (c) 5 (d) 6
86. A 14.4 kg. gas cylinder runs for 104 hours when the smaller burner on the gas store is fully opened while it runs for 80 hours when the larger burner on the gas store is fully opened. Which of these values are the closest to the percentage difference in the usage of gas per hour, of the smaller burner over the larger burner?  
 (a) 26.23% (b) 30% (c) 32.23% (d) 23.07%
87. Study the question and the statements given below. Decide whether any information provided in the statement(s) is redundant and/or can be dispensed with, to answer it.  
 If 7 is added to numerator and denominator each of fraction  $a/b$ , will the new fraction be less than the original one?  
 Statement I:  $a = 73, b = 103$   
 Statement II: The average of a and b is less than b  
 Statement III:  $a - 5$  is greater than  $b - 5$

- (a) II and either I or III    (b) Only I or II    (c) Any two of them    (d) Any one of them
88. Coefficient of variation is useful for studying  
 (a) Risk    (b) Disparity    (c) Consistency    (d) All of the above
89. A cyclist drove one kilometer, with the wind in his back, in three minutes and drove the same way back, against the wind in four minutes. If we assume that the cyclist always puts constant force on the pedals, how much time would it take him to drive one kilometer without wind?  
 (a)  $2\frac{1}{3}$     (b)  $3\frac{3}{7}$     (c)  $2\frac{3}{7}$     (d)  $3\frac{7}{12}$
90. A, B and C started a business by investing  $\frac{1}{2}$ ,  $\frac{1}{3}$ <sup>rd</sup> and  $\frac{1}{6}$ <sup>th</sup> of the capital respectively. After  $\frac{1}{3}$ <sup>rd</sup> of the total time, A withdrew his capital completely and after  $\frac{1}{4}$ <sup>th</sup> of the total time B withdrew his capital. C kept his capital for the full period. The ratio in which total profit is to be divided amongst the partners is  
 (a) 1:2:1    (b) 4:1:4    (c) 2:1:2    (d) 1:2:2
91. A number lock consists of 3 rings each marked with 10 different numbers. In how many cases the lock cannot be opened?  
 (a)  $3^{10}$     (b)  $10^3$     (c) 30    (d) 999
92. A person buys 18 local tickets for Rs. 110. Each first class ticket costs Rs. 10 and each second class ticket costs Rs. 3. What will another lot of 18 tickets in which the number of first class and second class tickets are interchanged cost?  
 (a) 112    (b) 118    (c) 121    (d) 124
93. A clock loses 12 minutes every 24 hours. It is set right at 7:25 p.m. on Monday. What will be the time when the clock shows 1:45 p.m. the following day?  
 (a) 1:20:35 p.m    (b) 1:35:50 p.m    (c) 1:25:35 p.m    (d) None of these
94. In a row at a bus stop, A is 7<sup>th</sup> from the left and B is 9<sup>th</sup> from the right. They both interchange their positions. A becomes 11<sup>th</sup> from the left. How many people are there in the row?  
 (a) 18    (b) 19    (c) 20    (d) 21
95. A merchant wants to make profit by selling food grains. Which of the following would maximize his profit?  
 I. Sell product at 30% profit  
 II. Increase the price by 15% over the cost price and reduce weight by 15%  
 III. Use 700 gm of weight instead of 1 kg  
 IV. Mix 30% impurities in grains and sell it at cost price  
 (a) III    (b) II and I  
 (c) II    (d) All give the same profit

**Directions for question 96 – 99:** Study the following chart carefully and answer.

**Failure Rates of Electronic Components**



96. From the failure data of electronics components presented here, which statement is true?  
(a) Integrated circuits and Printed circuit boards are more reliable.  
(b) Capacitors are more reliable than picture tubes.  
(c) Higher number of component failures is likely to be due to picture tubes.  
**(d) The last reliable component is Hybrid Micro circuits.**
97. Which of the following components has a failure rate 25% more than that of single devices  
(a) Picture tubes **(b) Capacitors**  
(c) Integrated circuits (d) Printed Circuit boards
98. Lowest priority for investing in any changes or additions to the component manufacturing units, in the company's investment plans, may be given to the following:  
(a) Printed circuit boards and hybrid micro circuits. (b) Capacitors and integrated circuits  
**(c) Picture tubes and signal devices** (d) Signal devices and capacitors
99. For the equipments using Integrated Circuit Boards: 400, Capacitors: 240 and Printed Circuit Boards: 120 to run with minimum downtime, how many spares should be kept in the store respectively?  
(a) 12, 4, 3 **(b) 12, 5, 4** (c) 5, 12, 4 (d) 12, 4, 4
100. The water from a roof, 9 sq. metres in area, flows down to a cylindrical container of 900 cm<sup>2</sup> base. To what height will the water rise in cylinder if there is a rainfall of 0.1 mm?  
(a) 0.1 cm (b) 0.1 metre (c) 0.11cm **(d) 1 cm**