

MANAGEMENT APTITUDE TEST (MAT)

Held on : Feb 2010

Time : 2.5 hrs

(BASED ON MEMORY)

Maximum Marks : 200

SECTION-A: Indian and Global Environment

1. Shiv Kapur is associated with
(a) Cricket (b) Badminton
(c) Golf (d) Hockey
2. What is the total number of seats in the Lok Sabha ?
(a) 545 (b) 560
(c) 505 (d) 582
3. The adline 'inspire the next' is associated with
(a) Hitachi (b) Kenstar
(c) Videocon (d) Samsung
4. Which is India's Sole aircraft carriers ?
(a) INS Delhi (b) INS Virat
(c) INS Shivalik (d) INS Kochi
5. Shantanu Narayan is associated with
(a) City group (b) Peposico
(c) Adobe System (d) Wipro
6. India's longest rail bridge is going to be built at
(a) Allahabad (b) Varanasi
(c) Kochi (d) Kolkata
7. The well known car model 'Prius' has been launched by
(a) Honda (b) Tata Motors
(c) GM (d) Toyota
8. Megan Fox is well known
(a) Actress (b) Lawn Tennis Player
(c) Painter (d) Badminton Player
9. IIP stands for
(a) Indian Industrial Production
(b) Indian Index for Production
(c) Index of Industrial Production
(d) None of the above
10. Infosys's Global Education Centre is located at
(a) Chennai (b) Bengaluru
(c) Mysore (d) Hyderabad
11. Which of the following places is popularly known as the IT city
(a) Chennai (b) Bengaluru
(c) Mysore (d) Hyderabad
12. The 2016 Olympic games will be organized in
(a) Chennai (b) Bengaluru
(c) Mysore (d) Hyderabad
13. Pankaj Advani won National Snooker Championship 2009 recently by defeating
(a) Devendra Joshi (b) Yasin Merchant
(c) Kamal Chawla (d) Sourav Kothari
14. As per the report of the UN Population Fund released in November 2009, which of the following countries would become the most populous country in the world in the next 40 years ?
(a) Brazil (b) China
(c) Japan (d) India
15. Winter Olympics 2014 will be held in
(a) USA (b) Russia
(c) Italy (d) Brazil
16. Who has been selected the winner of Indira Gandhi Peace Prize for 2009 ?
(a) Hamid Karzai (b) Sheikh Hasina
(c) Nirupam Sen (d) G. Madhavan Nair
17. India's nuclear power generation capacity is
(a) 5120 megawatt (b) 4120 megawatt
(c) 6120 megawatt (d) 7120 megawatt
18. India has recently signed a \$ 1.1 billion contract to supply an upgraded tactical air defence system. Which country is the supplier ?
(a) Russia (b) USA
(c) UK (d) Israel
19. After its recent merger with Samruddhi Cement, Ultra Tech has become the ... largest cement company in the world.
(a) 10th (b) 8th
(c) 5th (d) 12th
20. In which State was Krishnapatnam Port constructed recently?
(a) Tamil Nadu (b) Kerala
(c) Andhra Pradesh (d) Orissa
21. Sultan Azlan Shah Cup is associated with the game of
(a) Cricket (b) Football
(c) Badminton (d) Hockey
22. The well-known book 'The Rediscovery of India' has been written by
(a) Anita Desai (b) Aravind Adiga
(c) Meghnad Desai (d) Vikram Seth
23. Audi is a luxury car originally manufactured in
(a) UK (b) Japan
(c) USA (d) Germany
24. The 16th SAARC summit will be held in
(a) Bangladesh (b) India
(c) Maldives (d) Nepal
25. Which of the following companies are planning to take a stake in the Rs 9,300 crore gas pipeline that China is building in Myanmar to transport natural gas found in the Bay of Bengal ?
(a) Indian Oil and BPCL (b) ONGC and GAIL
(c) ONGC and HPCL (d) Indian Oil and ONGC
26. Who is the present Chairman of the UN body on Climate Change?
(a) Al Gore (b) Rajiv Shah
(c) R.K. Pachauri (d) Steve Jobs

27. 'Prima' is a newly launched
 (a) car (b) tractor
 (c) truck (d) motor-cycle
28. Dudhwa National Park is located in
 (a) UP (b) Uttarakhand
 (c) MP (d) West Bengal
29. Jaffna is situated in the part of Sri Lanka.
 (a) western (b) northern
 (c) southern (d) eastern
30. Giant drug maker Novartis is a/an company.
 (a) American (b) Indian
 (c) Swiss (d) Australian
31. Who is the CEO of the company 'Mahindra Satyam' which was formed after the seam in Satyam Computers' ?
 (a) C.P. Gurnani (b) Ashok Chawla
 (c) Swati Piramal (d) Rajeev Kapoor
32. Steven Spielberg is a well known
 (a) music director (b) football player
 (c) film director (d) actor
33. 'Agmark' is a symbol of purity and quality of
 (a) medicines (b) cosmetics
 (c) food products (d) woollens
34. High Court of Uttarakhand is located at
 (a) Dehradun (b) Nainital
 (c) Haridwar (d) Pauri
35. Famous film 'Slumdog Millionaire', which won eight Oscars, was based on the book written by
 (a) Aravind Adiga (b) Mukul Sharma
 (c) Vikas Swarup (d) Chetan Bhagat
36. Mr. Jyoti Basu was the Chief Minister of West Bengal for . years.
 (a) 25 (b) 24
 (c) 23 (d) 21
37. Kyoto protocol requires industrialized countries to bring down their emissions to ... less than the 1990 levels and assist the developing countries in avoiding the negative effects of climate change.
 (a) 5% (b) 8%
 (c) 9% (d) 10%
38. India's real GDP growth in the second quarter of the financial year 2009-10 is
 (a) 7.9% (b) 6.9%
 (c) 7.5% (d) 7%
39. As per the State of the Forest Report 2009, India's forest cover increased by 72,800 hectare during 2005-07. Overall, ... of the country's total geographical area is currently under green cover.
 (a) 31% (b) 21%
 (c) 11% (d) 28%
40. Which Indian-American was recently appointed as administrator of the United States Agency for International Development (USAID) by the American government ?
 (a) Suresh Kumar (b) Kash Gill
 (c) Rajiv Shah (d) None of these

SECTION-B: Data Analysis and Sufficiency

DIRECTIONS (Qs. 41-45) : Read the following passage to answer these questions.

As per the report published in one of the magazines it transpires that about 20% of the world's humanity lives in South Asia and has approximately half of the world's illiterates. It was further noted that only 46% of South Asia's adult population was literate versus 53% in Sub-Saharan Africa. This report further states that only 30% births are attended by trained health workers or nurses there. Ten out of 100 infants die at infancy and four more die before attaining the age of five years. In fact half of the 104 million juvenile malnutrition cases are to be seen in Bangladesh, Pakistan and India where India accounts for 42 million such cases for the children below the age of 5 years. If these children survive the first 5 years there are even chances that they will not attend school. 44% of those who attend the school drop out after fifth standard. They have to go out for earning to add up to the family income. Twenty five percent of South Asian children under the age of 18 work as labourers or work in the fields and the region has almost 125 million children in the job market. Unofficial figures indicate that about 48 million Indian children form the largest chunk of such population but the official figure is 20 million. The record book indicates that 68% of South Asian male children are enrolled in schools whereas the girl children share is 43%. Only 42 out of 100 women are literate as compared to 65 percent for men.

41. The number of children below the age of 18 in South Asia is million.
 (a) 420 (b) 370
 (c) 350 (d) 500
42. The percentage of the infants born who do not drop out before reaching 5th Standard is
 (a) 33 (b) 20
 (c) 25 (d) 21
43. % of world's illiteracy lives in South Asia.
 (a) 35 (b) 50
 (c) 25 (d) 17
44.% of infants born in South Asia do not survive till the age of 5.
 (a) 10 (b) 16
 (c) 4 (d) 14
45. The adult literacy rate in Sub-Saharan Africa exceeds that of South Asia by
 (a) 20% (b) 16.6%
 (c) 12% (d) None of these

DIRECTIONS (Q. 46-55) : Each of these has a question followed by two statements numbered I and II. Mark answer as :

- (a) if statement I alone is sufficient to provide the answer.
 (b) if statement II alone is sufficient to provide the answer.
 (c) if both statements are required to provide the answer.
 (d) if neither statement I nor II is sufficient to provide the answer.
46. If the expression $x^2 - 4x + 3.75 = 0$ is true, what is the unique value of x ?
 I x is a positive real number.
 II x is less than $\left(1 + \frac{1}{n}\right)^n$, where n is a positive integer.
47. Amongst five students A, B, C, D, E , who got the maximum marks ?
 I D got more than A and C .
 II B got less than E but more than D .

48. What is the cost of a book ?
 I. The selling price is 25% more than the cost price.
 II. The seller makes a profit of Rs 100 on selling every lot of 5 books.
49. How many tonnes of cement will be needed for the foundation of a flat ?
 I. For construction of entire flat 50 tonne of cement will be used.
 II. The volume of the cement needed for the foundation is 100 cubic yard.
50. A toy was initially listed at a price to give the shopkeeper 20% profit of the wholesale cost. What is the wholesale cost ?
 I. After reducing the listed price by 10%, the toy sold for a profit of Rs 10.
 II. The toy sold for Rs 50.
51. In a class, 150 students took the examination of Physics and Chemistry. 90 students passed in Chemistry and 50 passed in Physics. How many students passed in both ?
 I. Overall 30 students failed in both the papers.
 II. Physics paper was tougher than Chemistry paper.
52. Is $a < b$?
 I. $a^2 - 4a + 4 = 0$
 II. $b^2 - 6b + 9 = 16$
53. In a queue for railway tickets, 5 persons Ram, Shyam, Narender, Naresh, Ramesh are standing in random order. Who is the 3rd person in the queue ?
 I. Shyam is standing behind Ram and Narender is ahead of Ram.
 II. The queue starts from Ramesh and ends with Naresh.
54. In a group of 4 students X, Y, Z, A who got the maximum marks?
 I. Z got less marks than Y.
 II. Y got more marks than X but less than A.
55. What is the value of a 2-digit number ?
 I. The sum of the 2 digits is 6.
 II. The difference of the 2 digits is 2.

DIRECTIONS (Qs. 56-60) : Each of these questions consists of two quantities, one in Column A and the other in Column B. Compare the two quantities. Mark answer as

- (a) if the quantity in Column A is greater
 (b) if the quantity in Column B is greater
 (c) if the two quantities are equal
 (d) if comparison cannot be made from the information given

Qs.	Column A	Column B
56.	$(16 \div 4 + 8 \times 2 - 8)$	$(3 \times 4 + 1 \div 5 - 3)$
57.	0.01 divided by 0.1	0.01 times 0.1
58.	$9\sqrt{(1/3)}$	$6\sqrt{(1/2)}$
59.	Semi-circumference of a circle with radius 10 cm	Circumference of a circle with radius 5 cm
60.	Circumference of a circle = 1 cm	Perimeter of a square with radius whose side is 1.5 cm

DIRECTIONS (Qs. 61-65) : Table A gives the readership of magazines in hundred from 2001 to 2004 and Table B indicates the number of magazines published during this period. Answer the following questions based on these tables.

Category	2001		2002		2003		2004	
	E	H	E	H	E	H	E	H
General	1000	1200	1500	1600	2000	1800	2500	2000
Sports	400	200	600	400	1000	700	1200	800
Film	600	800	900	1200	1000	1500	1200	1800
Business	300	100	400	150	600	250	800	500

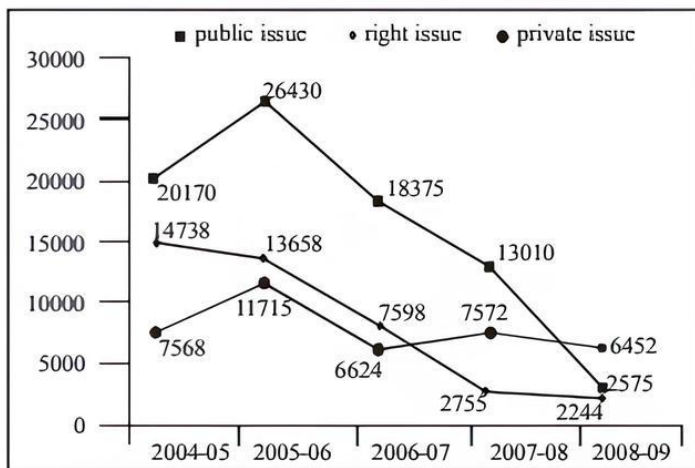
Category	2001		2002		2003		2004	
	E	H	E	H	E	H	E	H
General	12	10	15	14	17	15	29	16
Sports	3	2	5	3	7	4	8	6
Film	3	4	5	6	5	7	6	8
Business	4	2	5	3	6	4	7	8

E = English, H = Hindi

No magazine was discontinued during the above period.

61. What is the approximate average readership per magazine in 2003 ?
 (a) 14600 (b) 13400
 (c) 13000 (d) 14100
62. Between 2001 and 2003, the number of magazines added is
 (a) 22 (b) 25
 (c) 26 (d) 28
63. What is ratio of added Hindi magazines to added English magazine between 2001 and 2002 ?
 (a) 3 (b) 2
 (c) 1 (d) 6
64. In 2002, as against 2001, readership per magazine declined for which category ?
 (a) Sports (b) General
 (c) Business (d) Film
65. Considering only the English Sports magazines, what is the ratio between readership in 2001 and the readership 2001-2004 ?
 (a) $\frac{1}{8}$ (b) $\frac{4}{53}$
 (c) $\frac{2}{9}$ (d) $\frac{2}{15}$

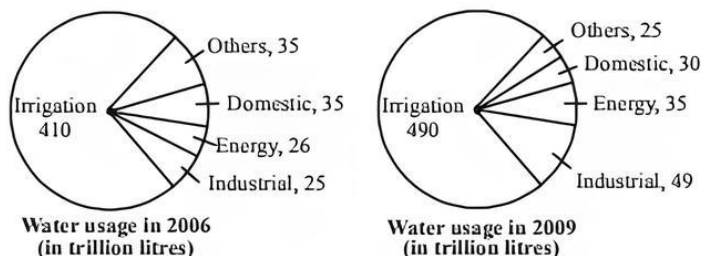
DIRECTIONS (Qs. 66-70) : Study the graph to answer these questions. The graph indicates the amount of money raised through various financial instruments from capital market by M/s PP Ltd. the amount is in Rs Crore.



66. The amount of private placement raised as a percentage of total funds raised was the maximum in the year
 (a) 2004 - 05 (b) 2007 - 08
 (c) 2005 - 06 (d) 2008 - 09
67. The total amount of funds raised was the least in which of the following year
 (a) 2008 - 09 (b) 2005 - 06
 (c) 2004 - 05 (d) 2007 - 08
68. The average amount raised by way of public issue for the period 2004 - 05 to 2008 - 09 excluding the period 2005 - 06 is
 (a) Rs 16, 112 crore (b) Rs 14, 159 crore
 (c) Rs 17, 628 crore (d) Rs 13, 532 crore
69. What is the percentage of amount raised by public issue to the total amount raised?
 (a) 52% (b) 49.9%
 (c) 50.19% (d) 46%
70. What is the percentage decrease in amount raised by rights issue in 2005 - 06 against that of 2006 - 07?
 (a) 44.4% (b) 42.2%
 (c) 54.4% (d) 45%

DIRECTIONS (Qs. 71-75) : These questions are based on the pie charts which represent the shift in water usage between

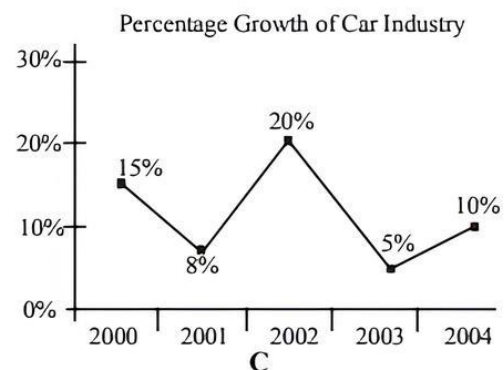
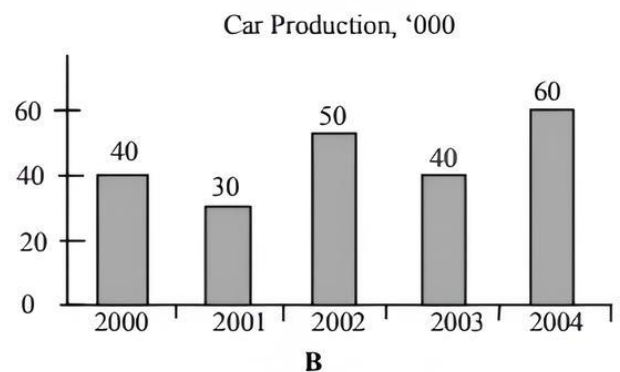
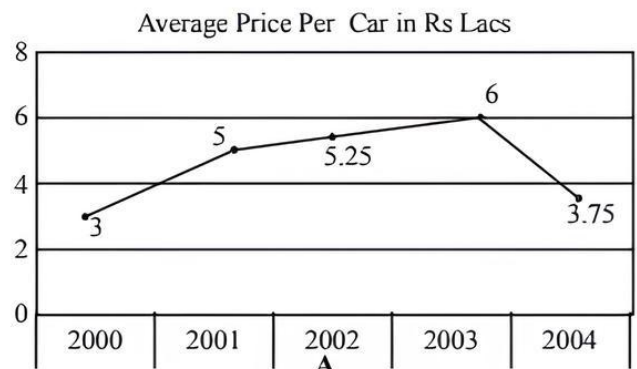
2006 and 2009; based on a survey conducted by Central Water Commission.



71. If the ratio of processing cost for water for industrial, energy and domestic usage is 3 : 5 : 2, what is the ratio of processing cost for above mentioned usage in 2006 to that in 2009?
 (a) 0.68 (b) 0.72
 (c) 0.60 (d) 0.77
72. What is the percentage increase in usage in energy related sector from 2006 to 2009?
 (a) 14.4% (b) 23.3%
 (c) 15.4% (d) 17%

73. What is the irrigation usage as percentage of total usage in 2009?
 (a) 65.18% (b) 83.45%
 (c) 75% (d) 69.6%
74. What is the difference in domestic usage as percentage of total usage between 2006 and 2009?
 (a) 3.16 (b) 2.08
 (c) 2.26 (d) 1.82
75. Which one out of the four shows the highest percentage increase in usage from 2006 to 2009?
 (a) Domestic (b) Industrial
 (c) Others (d) Energy

DIRECTIONS (Qs. 76-80) : Study the graphs to answer these questions. The graphs are related to M/s PAL, a reputed automobile company in Asia. Graph A indicates the average price per car in Rs lacs. Graph B represents the production in units of thousands. Graph C depicts the growth rate of the entire car industry on volume basis.



76. What is the average annual growth rate of PAL car production for the period 2001 to 2004 ?
 (a) 100% (b) 20%
 (c) 50% (d) 33.3%
77. The maximum percentage change with respect to previous year in the average price per car of PAL is
 (a) 42.2% (b) 40%
 (c) 37.5% (d) 25.5%
78. What is the percentage share of PAL in 2002, if the total production of car industry is 3 lacs in that year ?
 (a) 16.7% (b) 25%
 (c) 50% (d) 33.3%
79. If only 80% of PAL cars produced in 2001 were sold in that year and the rest were sold in the next year, what is the revenue of the company in 2001 assuming that the inventory at the beginning of 2001 is zero ?
 (a) Rs 750 Cr (b) Rs 1080 Cr
 (c) Rs 7500 Cr (d) Cannot be determined
80. If there is rejection of 10% of the production in 2000 due to quality control issues, what is the turnover of PAL, assuming sales = production - rejection ?
 (a) Rs 720 Cr (b) Rs 986 Cr
 (c) Rs 1080 Cr (d) Rs 850 Cr
81. A cylindrical container of height 14 m and base diameter 12 m contains oil. This oil is to be transferred to one cylindrical can, one conical can and a spherical can. The base radius of all the containers is same. The height of the conical can is 6 m. While pouring some oil is dropped and hence only $\frac{3}{4}$ of cylindrical can could be filled. How much oil is dropped ?
 (a) $54\pi\text{m}^3$ (b) $36\pi\text{m}^3$
 (c) $46\pi\text{m}^3$ (d) $50\pi\text{m}^3$
82. The length of a rectangle is increased to $\frac{3}{2}$ times of its length and breadth is reduced to $\frac{1}{3}$ rd of its breadth. What is the change in area ?
 (a) $\frac{1}{3}$ (b) $\frac{1}{4}$
 (c) $\frac{1}{2}$ (d) No change
83. The ratio of the volume of a cube to that of the sphere which can fit inside the cube is
 (a) 3 : 4 (b) 21 : 11
 (c) 11 : 22 (d) 4 : 3
84. A hollow cone is cut by a plane parallel to the base and the upper portion is removed. If the curved surface area of the remainder is $\frac{8}{9}$ th of the curved surface of the whole cone, the ratio of the line segments into which the cone's altitude is divided by the plane is given by
 (a) 2 : 3 (b) 1 : 3
 (c) 1 : 2 (d) 1 : 4
85. A circular swimming pool with a diameter of 28 feet has a deck of uniform width built around it. If the area of the deck is 60π square feet, find its width.
 (a) 3 feet (b) 2.8 feet
 (c) 2 feet (d) 2.5 feet
86. A toy is in the shape of a hemisphere surmounted by a cone. If radius of base of the cone is 3 cm and its height is 4 cm, the total surface area of the toy is
 (a) $33\pi\text{cm}^2$ (b) $42\pi\text{cm}^2$
 (c) $66\pi\text{cm}^2$ (d) $56\pi\text{cm}^2$
87. A person invested some amount at the rate of 12% simple interest and a certain amount at the rate of 10% simple interest. He received yearly interest of Rs 130. But if he had interchanged the amounts invested, he would have received Rs 4 more as interest. How much did he invest at 12% simple interest ?
 (a) Rs 700 (b) Rs 500
 (c) Rs 800 (d) Rs 400
88. The effective annual rate of interest corresponding to a nominal rate of 8% per annum payable half yearly is
 (a) 8% (b) 8.01%
 (c) 8.13% (d) 8.16%
89. A sum was put at simple interest at a certain rate for 3 years. Had it been put at 1% higher rate, it would have fetched Rs 5,100 more. The sum is
 (a) Rs 1,70,000 (b) Rs 1,50,000
 (c) Rs 1,25,000 (d) Rs 1,20,000
90. Prem invested a certain sum of money in a simple interest bond whose value grew to Rs 300 at the end of 3 years and to Rs 400 at the end of another 5 years. What was the rate of interest in which he invested his sum ?
 (a) 12% (b) 12.5%
 (c) 6.67% (d) 8.33%
91. The population of a colony was 3600 three years back. It is 4800 right now. What will be the population three years down the line, if the rate of growth of population has been constant over the years and has been compounding annually ?
 (a) 6,000 (b) 6,400
 (c) 7,200 (d) 9,600
92. Rs 5,887 is divided between Shyam and Ram, such that Shyam's share at the end of 9 years is equal to Ram's share at the end of 11 years, compounded annually at the rate of 5%. The share of Shyam is
 (a) Rs 2,088 (b) Rs 2,000
 (c) Rs 3,087 (d) None of the above
93. An aeroplane when 3000 m high passes vertically above another aeroplane at an instant when the angles of elevation of the two aeroplanes from the same point on the ground are 60° and 45° respectively. The vertical distance between the two aeroplanes is
 (a) 1268 m (b) 1500 m
 (c) 3000 m (d) 1200 m
94. An aeroplane flying horizontally 1 km above the ground is observed at an elevation of 60° . If after 10 seconds, the elevation be 30° , the uniform speed of the aeroplane is
 (a) $240\sqrt{3}$ km/h (b) $240/\sqrt{3}$ km/h
 (c) $120/\sqrt{3}$ km/h (d) $120\sqrt{3}$ km/h
95. From the top of a cliff 25 m high the angle of elevation of a tower is found to be equal to the angle of depression of the foot of the tower. The height of the tower is
 (a) 25 m (b) 50 m (c) 75 m (d) 100 m
96. Two times a two-digit number is 9 times the number obtained by reversing the digits and sum of the digits is 9. The number is
 (a) 72 (b) 54 (c) 63 (d) 81

97. The students present in an auditorium are asked to stand in rows. If there were 4 students extra in a row there would be 4 less rows. However, if 2 students were less in a row, there would be 4 more rows. The number of students present in the auditorium is
(a) 80 (b) 96 (c) 100 (d) 128
98. One-fourth of Nikhil's money is equal to one-sixth of Yogesh's money. If both together have Rs 600, what is the difference between their amounts?
(a) Rs 160 (b) Rs 240
(c) Rs 200 (d) Rs 120
99. If 5 students utilize 18 pencils in 9 days, how long at the same rate will 66 pencils last for 15 students?
(a) 10 days (b) 12 days
(c) 11 days (d) None of these
100. A money lender lent out Rs 25,000 in two parts, one at 8% and the other at 8.5%. If the total annual income on the amount is Rs 2031.25, the money lent at 8% is
(a) Rs 12,500 (b) Rs 6,250
(c) Rs 10,000 (d) Rs 18,750
101. A person spends 40% of his salary on his educational expenses. He spends 60% of it in purchasing books and one-half of the remaining in purchasing stationery items. If he saves Rs 160 every month, which is one-fourth of the balance after spending over books and stationery items, what is his monthly salary?
(a) Rs 8,000 (b) Rs 4,800
(c) Rs 9,600 (d) Data inadequate
102. In measuring the sides of a rectangular plot, one side is taken 5% in excess and the other 6% in deficit. The error percent in area calculated, of the plot, is
(a) 1% (b) 1.3% (c) 1.5% (d) 3%
103. The average sale of a car dealership was 15 cars per week. After a promotional scheme the average sale increased to 21 cars per week. The percentage increase in the sale of cars was
(a) 40% (b) 140%
(c) 42% (d) 39.33%
104. The number of triangles formed by the 11 points, out of which 5 are collinear in a plane is
(a) 165 (b) 150
(c) 155 (d) None of these
105. A man has 5 friends and his wife has 4 friends. They want to invite either of their friends, one or more to a party. In how many ways can they do so?
(a) 9 (b) 18 (c) 31 (d) 46
106. Out of 80 students in a class, 25 are studying commerce, 15 mathematics and 13 physics. 3 are studying commerce and mathematics, 4 are studying mathematics and physics and 2 are studying commerce and physics. 1 student is studying all the three subjects together. How many students are not studying any of the three subjects?
(a) 35 (b) 40 (c) 20 (d) 15
107. Three pipes *A*, *B* and *C* can fill a tank in 20 min, 10 min and 30 min respectively. When the tank is empty, all the three pipes are opened. *A*, *B*, *C* discharge chemical solutions 'x', 'y', 'z' respectively. The proportion of solution 'y' in the liquid in the tank after 3 min is
(a) 6/11 (b) 7/11
(c) 8/11 (d) 5/11
108. Three taps *A*, *B* and *C* can fill a tank in 12, 15 and 20 h respectively. If *A* is open all the time and *B* and *C* are open for one hour each alternately, the tank will be filled in
(a) 6 h (b) 7 h
(c) 5 h (d) None of these
109. Namrata wants to visit four cities *A*, *B*, *C* and *D* on an official trip. The probability that she visits *A* just before *B* is
(a) 1/2 (b) 1/12
(c) 1/6 (d) 1/4
110. A lot of 12 bulbs contains 4 defective bulbs. Three bulbs are drawn at random from the lot, one after the other. The probability that all three are non-defective is
(a) 14/55 (b) 8/12
(c) 1/27 (d) None of these
111. A plane left 30 min later than its scheduled time to reach its destination 1500 km away. In order to reach in time it increases its speed by 250 km/h. What is its original speed?
(a) 1000 km/h (b) 750 km/h
(c) 600 km/h (d) 800 km/h
112. A person on tour has Rs 360 for his daily expenses. He decides to extend his tour programme by 4 days which leads to cutting down daily expenses by Rs 3 a day. The number of days of his tour programme is
(a) 15 (b) 20 (c) 18 (d) 16
113. Shyam's rich uncle gave him Rs 100 on his first birthday. On each birthday after that he doubled his previous gift. By the day after Shyam's eighth birthday, what was the total amount that his uncle had given him?
(a) Rs 25,500 (b) Rs 25,400
(c) Rs 25,450 (d) Rs 25,600
114. A man ordered 4 pairs of black socks and some pairs of brown socks. The price of a black pair is double that of a brown pair. While preparing the bill, the clerk did a mistake and interchanged the number of black and brown pairs. This increased the bill by 50%. The ratio of the number of black and brown pairs of socks in the original order was
(a) 4:1 (b) 2:1 (c) 1:4 (d) 1:2
115. Three friends Anita, Bindu and Champa divide Rs 1,105 amongst them in such a way that if Rs 10, Rs 20 and Rs 15 are removed from the sums that Anita, Bindu and Champa received respectively, then the share of the sums that they got will be in the ratio of 11 : 18 : 24. How much did Champa receive?
(a) Rs 495 (b) Rs 510
(c) Rs 480 (d) Rs 375
116. I have to reach a certain place at a certain time and I find that I shall be 15 min too late, if I walk at 4 km an hour, and 10 min too soon, if I walk at 6 km an hour. How far have I to walk?
(a) 25 km (b) 5 km
(c) 10 km (d) None of these
117. A train travels a distance of 300 km at a constant speed. If the speed of the train is increased by 5 km an hour the journey would have taken 2 h less. The original speed of the train was
(a) 25 km/h (b) 20 km/h
(c) 28 km/h (d) 30 km/h

118. The simple interest and the true discount on a certain sum for a given time and at a given rate are Rs 25 and Rs 20 respectively. The sum is
 (a) Rs 500 (b) Rs 200
 (c) Rs 250 (d) Rs 100
119. A man wants to sell his scooter. There are two offers, one at Rs 12,000 cash and the other at a credit of Rs 12,880 to be paid after 8 months, money being at annum. Which is the better offer ?
 (a) Rs 12,000 in cash (b) Rs 12,880 at credit
 (c) Both are equal (d) None of these
120. A trader owes a merchant Rs 10,028 due 1 year hence. The trader wants to settle the account after 3 months. If the rate of interest is 12% per annum, how much cash should he pay?
 (a) Rs 9,025 (b) Rs 9,200
 (c) Rs 9,600 (d) Rs 9,560
121. Ramakrishna said, "This girl is the wife of the grandson of my mother". How is Ramakrishna related to the girl ?
 (a) Father (b) Father-in-law
 (c) Grandfather (d) Daughter-in-law
122. Showing a photograph to a friend, Ravi says, "She is the grand-daughter of the elder brother of my father". How is this girl related to Ravi ?
 (a) Niece (b) Sister
 (c) Aunt (d) Sister-in-law

DIRECTIONS (Qs. 123-126) : For the Assertion (A) and Reason (R) below choose the correct alternative from the following. Mark answer as

- (a) if both A and R are true and R is the correct explanation of A.
 (b) if both A and R are true but R is not the correct explanation of A.
 (c) if A is true but R is false.
 (d) if A is false but R is true.
123. **Assertion (A) :** India should not enter into a 'No-War-Pact' with Pakistan.
Reason (R) : Because Pakistan's intentions are not clear.
124. **Assertion (A) :** India should adopt presidential type of government.
Reason (R) : Yes, it will bring political order in the country.
125. **Assertion (A) :** States of India should be given more autonomy/freedom.
Reason (R) : No, because it will encourage separatist tendencies.
126. **Assertion (A) :** Divorce laws should be made more favourable to women in India.
Reason (R) : No, it will disrupt the family life, as more women will seek divorce.

DIRECTIONS (Qs.127-131) : In each of these questions, there is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the assumptions to decide which of the assumptions is implicit in the statement : Mark your answer as

- (a) if only assumption I is implicit,
 (b) if only assumption II is implicit,
 (c) if either I or II is implicit,
 (d) if neither I nor II is implicit.

127. **Statement :** Love marriages generally end in divorce. So, the children are brought up by one parent. Therefore, the practice of love marriages should be abandoned.

Assumptions :

- I Arranged marriages are better than love marriages.
 II It is undesirable to have a child brought up by one parent.

128. **Statement :** Properly fed and starved monkeys were made to run through a network of paths designed as a puzzle. It was observed that the starved monkeys could not run faster. This proved that the people with lower intelligence in poor countries are a victim of malnutrition.

Assumptions :

- I The effects of nutrition on the intelligence of the monkeys is parallel to those on human beings.
 II Captive monkeys are more intelligent than wild monkeys.

129. **Statement :** People in Pratapgarh are not paying their telephone bills in spite of the various verbal warnings and reminders. It has now informed the subscribers through a notification that those who do not pay their bills by the due date will be charged penalty for every defaulting day.

Assumptions :

- I Majority of people may pay their bills by the due date to avoid penalty.
 II People generally pay heed to such statutory notifications.

130. **Statement :** The civic authorities have decided that all the factories located inside the city in the populated areas be shifted outside at the allocated place to reduce the level of environmental pollution in the city to safeguard the health of people living there.

Assumptions :

- I The pollution level in the city in future shall certainly reduce after these factories are shifted outside the city limit and hence people will enjoy a better health.
 II Enough usable land is available outside the city limit for these factories.

131. **Statement :** Company 'A' has intimated all its present suppliers that tender specification will not be issued to the firms where there is 25% or more default in supplies against the earlier purchase order placed on them.

Assumptions :

- I The company 'A' will be watching the quality of performance of its suppliers.
 II The company 'A' expects quality and professional approach from its suppliers.

132. Which number would replace question mark (?) in the series?

		1		
		7		
6	5	?	1	3
		8		
		5		

- (a) 7 (b) 9 (c) 3 (d) 5

133. Simplify and find the value of 'A' in the equation given below :

$$2 + 7 \times 16 - (8 - 7) - (9 \div 3) = A$$

- (a) 116 (b) 150 (c) 110 (d) 220
134. Complete the series 162, 54, 18, 6, ? by replacing the question mark?
- (a) 2 (b) 3 (c) 4 (d) 5
135. Compare both the boxes below. Which number can replace the question mark (?) in the box shown below ?

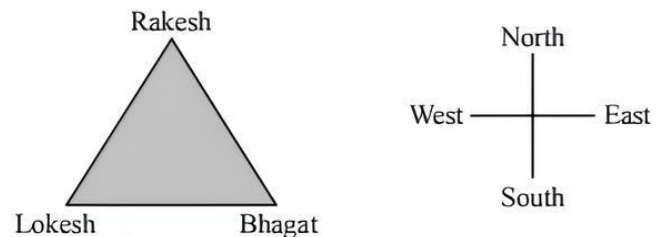
6	1	5
2	1	1
4	2	2

?	3	2
7	1	6
8	3	5

- (a) 5 (b) 4 (c) 6 (d) 7
136. In a coded writing, "come at once father very ill" is written as "XLNV ZG LMXU UYGSVI EVIB ROO". What is the corresponding code for 'mother'?
- (a) NOGSVI (b) NOTSVI
(c) NLGSVI (d) NLGSTI
137. If 'CONSTABLE' is coded as 91, what will be the code number for 'STABLE'?
- (a) 97 (b) 59
(c) 79 (d) 75
138. Ages are to be computed in whole numbers only and no two persons are of the same age. Mahesh is a year older than Vikas. Vikas is two years older than Jagan. Jagan is a year younger than Suresh. Suresh is two years younger than Mahesh. Akmal is two years younger than Jagan. Which of the following is in the order from the oldest to the youngest?
- (a) Mahesh, Vikas, Jagan, Suresh, Akmal
(b) Mahesh, Vikas, Suresh, Akmal, Jagan
(c) Mahesh, Vikas, Suresh, Jagan, Akmal
(d) Mahesh, Jagan, Vikas, Akmal, Suresh
139. A cube has six sides each of a different colour. The red side is opposite black. The green side is between red and black. The blue side is adjacent to white and the brown side is adjacent to blue. The red side is face down. The side opposite brown is
- (a) red (b) black
(c) white (d) green
140. A person goes 20 m towards South, then turns left and goes 20 m and another 20 m to the left and then 60 m to the right. In which direction is he going now?
- (a) North (b) South
(c) East (d) West
141. A man was walking with his face towards East. He walked 30 m and then turned to his right by another 30 m. He again turned towards his right by 60 m. He now turned back by 90 m. Which direction was he facing now?
- (a) North (b) South
(c) East (d) West

DIRECTIONS (Qs. 142-145) : Complete the series.

142. 5G77H10 10I14 14J19.....
- (a) 16K20 (b) 17K21
(c) 18K21 (d) 19K25
143. J 15 KM21N S39T V51W
- (a) N24P (b) P27Q
(c) P29Q (d) P25Q
144. D23FH19JL17N T11V
- (a) P15R (b) P14R
(c) P13R (d) P12R
145. Z70B D65F H60J P50R
- (a) K55L (b) L55M
(c) L55N (d) L55P
146. Out of a total of 120 musicians in a club, 5% can play all the three instruments guitar, violin and flute. It so happens that the number of musicians who can play any two and only two of the above instruments is 30. The number of musicians who can play the guitar alone is 40. What is the total number of those who can play violin alone or flute alone?
- (a) 30 (b) 38 (c) 44 (d) 45
147. There are 50 students admitted to a nursery class. Some students can speak only English and some can speak only Hindi. Ten students can speak both English and Hindi. If the number of students who can speak English is 21, then how many students can speak Hindi, how many can speak only Hindi and how many can speak only English respectively?
- (a) 39, 29 and 11 (b) 37, 27 and 13
(c) 28, 18 and 22 (d) 21, 11 and 29
148. From the given equilateral triangle below, Rakesh, Lokesh and Bhagat run along the sides in clockwise direction and stop after covering $1\frac{1}{2}$ sides. Which of the following statements is true?



- (a) Lokesh is to the west of Bhagat
(b) Rakesh is to the south-west of Lokesh
(c) Lokesh is to the north-west of Rakesh
(d) Bhagat is to the north-east of Rakesh
149. Village A is 20 km to the north of Village B. Village C is 18 km to the east of Village B, Village D is 12 km to the west of Village A. If Raj Gopal starts from Village C and goes to Village D, in which direction is he from his starting point?
- (a) North-East (b) North-West
(c) South-East (d) North
150. In the following number sequence how many such even numbers are there which are exactly divisible by its immediate preceding number but not exactly divisible by its immediate following number?
- 3 8 4 1 5 7 2 8 3 4 8 9 3 9 4 2 1 5 8 2
- (a) Two (b) Three
(c) Four (d) More than four

151. *A, B, C, D, E, F* and *G* are members of a family consisting of 4 adults and 3 children, two of whom, *F* and *G* are girls, *A* and *D* are brothers and *A* is a doctor. *E* is an engineer married to one of the brothers and has two children. *B* is married to *D* and *G* is their child. Who is *C*?
- (a) *G*'s father (b) *F*'s father
(c) *E*'s daughter (d) *A*'s son
152. A worker may claim Rs 15 for each km which he travels by taxi and Rs 5 for each km which he drives his own car. If in one week he claimed Rs 500 for travelling 80 km, how many kms did he travel by taxi?
- (a) 10 (b) 20 (c) 30 (d) 80
153. The number of boys in a class is three times the number of girls. Which one of the following numbers cannot represent the total number of children in the class?
- (a) 48 (b) 44 (c) 42 (d) 40
154. Ravi has Rs 3 more than Ramu, but then Ramu wins on the horses and trebles his money, so that he now has Rs 2 more than the original amount of money that the two boys had between them. How much money did Ravi and Ramu have between them before Ramu's win?
- (a) Rs 9 (b) Rs 11 (c) Rs 13 (d) Rs 15
155. A man has a certain number of small boxes to pack into parcels. If he packs 3, 4, 5 or 6 in a parcel, he is left with one over; if he packs 7 in a parcel, none is left over. What is the number of boxes he may have to pack?
- (a) 106 (b) 301 (c) 309 (d) 400
156. If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month?
- (a) Sunday (b) Monday
(c) Wednesday (d) Friday
157. My bag can carry no more than ten books. I must carry at least one book each of management, mathematics, physics and fiction. Also, for every management book I must carry two or more fiction books, and for every mathematics book, I must carry two or more physics books. I earn 4, 3, 2 and 1 points for each management, mathematics, physics and fiction book, respectively, I carry in my bag. I want to maximize the points I can earn by carrying the most appropriate combination of books in my bag. The maximum points that I can earn are
- (a) 20 (b) 21 (c) 22 (d) 23
158. I. $P \times Q$ means *P* is the brother of *Q*.
II. $P + Q$ means *P* is the father of *Q*.
III. $P - Q$ means *P* is the sister of *Q*.
Which of the following represents *X* is the uncle of *M*?
- (a) $X + Y - M$ (b) $X \times Y + M$
(c) $X + Y \times M$ (d) None of these
159. (i) Bengalis and Tamils are politicians, poets and warriors.
(ii) Tamils and Punjabis are politicians, warriors and mathematicians.
(iii) Punjabis and Gujaratis are politicians, businessmen and mathematicians.
(iv) Gujaratis and Kashmiris are businessmen, poets and mathematicians.
(v) Bengalis and Kashmiris are businessmen, poets and warriors. Name the people who are politicians, businessmen, poets and mathematicians.
- (a) Bengalis (b) Tamils
(c) Punjabis (d) Gujaratis

160. (i) Six friends *A, B, C, D, E* and *F* are seated in a circle facing each other.
(ii) *A* is between *D* and *B* and *F* is between *C* and *E*.
(iii) *C* is the third to the left of *B*.
Which of the following is the position of *A* in relation to *F*?

- (a) Second to the left (b) Second to the right
(c) Fourth to the right (d) Third to the right

DIRECTIONS (Qs. 161-165) : Each one of these questions has a group of sentences marked *A, B, C, D* and *E*. Arrange these to form a logical sequence.

161. A. After all, a story told on the large screen inevitably differs from that told on the small screen.
B. This critical difference has an impact on viewership in terms of age, income and occupation.
C. In this, the age of multimedia, we have to train ourselves to understand that as a rule, the medium is the message.
D. It also has an impact on the expectations brought by the public to bear on large and small screen performances, and on the performers.
E. Never has the myth of 'one size fits all', been shown up so effectively, therefore, as in the field of Media Studies.
- (a) ABDCE (b) CABED
(c) CABDE (d) CDABE
162. A. Indeed, the reading-public of today seems to be more tolerant of this crossover than their predecessors might have been.
B. Both writers and readers seem to enjoy cross-crossing the line between documentation and fiction.
C. Beginning with *Midnight's Children*, there has been a steady breakdown of the disciplinary wall between literature and history.
D. Editorial cartoons, once barely recognised as a source of humour for the masses, are now studied as important sources of historical documentation and literary value.
E. This has led to a revision in the view of what constitutes historical and literary debate, and of what constitutes the sources of this debate.
- (a) DECAB (b) CBAED
(c) CABED (d) ABCED
163. A. Sub-Saharan Africa is often cited as a territory in which starvation could be significantly reduced, were GM foods brought into worldwide circulation.
B. Farmers cite the steady impoverishment of the soil, and the deterioration in the quality of seeds, as excellent reasons for protesting GM foods.
C. As with many cutting-edge discoveries, however, its long-term consequences can be difficult to handle.
D. Genetically modified, or GM foods, are marketed enthusiastically by some section of the developed world that claim they can cure the ills of the developing world.
E. A lack of transparency concerning ethical testing is another reason given by the developing world for receiving GM foods with caution rather than with celebration.
- (a) DACBE (b) BEDCA
(c) CADEB (d) DEBAC

164. A. For example, cars in the developing world are often seen as status symbols to be acquired, while in the developed world they are seen as liabilities to be discarded.
 B. The size of the carbon footprint of nations in the developing world has again come in for serious international discussion.
 C. The failed mission of Copenhagen is the immediate cause of the resumption of this debate.
 D. While the main triggers of the debate are economic, social and cultural factors also have a major role to play.
 E. As with so many other issues, clearly, here too 'one man's meat is another man's poison.'
 (a) DECAB (b) CEDAB
 (c) BCDAE (d) BACED

DIRECTIONS (Qs. 165-170) : *Select the word that is antipositer in meaning to the word in capital letters*

165. SCRIMP
 (a) Lavish (b) Parsimonious
 (c) Meticulous (d) Polite
166. DELECTABLE
 (a) Agonising (b) Appestising
 (c) Distasteful (d) Laborious
167. GRAVE
 (a) Noble (b) Inconsequential
 (c) Solemn (d) Senile
168. CONFIDANT
 (a) Turncoat (b) Arrogant
 (c) Confederate (d) Fim
169. AMALGAMATE
 (a) Merge (b) Consecrate
 (c) Impoverish (d) Split
170. Boisterous
 (a) Serene (b) Tumultuous
 (c) Brazen (d) Opaque

DIRECTIONS (Qs. 171-176) : *Identify the error from below mentioned sentences.*

171. Although farmers complained that the company's new product was expensive, malodorous, and ...
 (a) dangerous to handle
 (b) there was few who
 (c) would dispute its effectiveness
 (d) as an insecticide
172. When
 (a) it become apparent to live that not one of the remaining jurors
 (b) were going to believe his
 (c) client's alibi, he began to reconsider the district attorney's
 (d) offer of a plea bargain
173. High fidelity, a successful book and film,
 (a) become
 (b) successful as a cult classic because of its sharp wit and
 (c) by presenting a quirky main character, Rob,
 (d) as a common man

174. Through Patricia's resume was
 (a) Though Patricia's resume was
 (b) not nearly as long and impressive as
 (c) the other applicant her personal charisma was
 (d) so great that Mr Alvarez hired her on the spot
175. Opponents of the Art
 (a) argued that the legislation
 (b) was not only vaguely formulated and unconstitutional, but also impossible.
 (c) to enforced in an international
 (d) and virtually unregulated arena
176. Even
 (a) those who profess
 (b) to care about "green" issues often fail to consider
 (c) how their daily choices
 (d) effect the environment

DIRECTIONS (Qs. 177-180) : *Each of these has a sentence given in four different forms. Choose the most appropriate form of writing.*

177. (a) Markets are always sensitive to consumer behaviour, but perhaps not in the way consumers expect they will be
 (b) Markets are always sensitive to human behaviour, but perhaps not in the way consumers believe they might be.
 (c) Markets are always sensitive to consumer behaviour, although perhaps not in the way consumers believe them to be.
 (d) Markets are not always sensitive to consumer behaviour in the way consumers believe them to be.
178. (a) If foreign policy does not make its demands on the domestic policy of a nation, its citizens are doomed,
 (b) Unless domestic policy makes its demands on the foreign policy of a nation, its citizens are doomed.
 (c) When foreign policy makes its demands on the domestic policy of a nation, its citizens are doomed.
 (d) Unless foreign policy makes its demands on the domestic policy of a nation, its citizens are doomed.
179. (a) The environment is as much at the mercy of human greed as it is of human need.
 (b) Human greed is as great a threat to the environment as is human need.
 (c) Human need is as great a threat to the environment as is human greed.
 (d) The environment is as merciful to human need as it is to human greed,
180. (a) Despite amazing advances in technology, Air Traffic Control is able to overcome the weather as well as to predict it.
 (b) Despite amazing advances in technology, Air Traffic Control is able to predict the weather and overcome it.
 (c) Owing to amazing advances in technology, Air Traffic Control can predict the weather and overcome it.
 (d) Air Traffic Control is able to predict the weather but not overcome it, despite amazing advances in technology.

SECTION-E: English Language

DIRECTIONS (Qs.181–200) : *Read the passages below to answer the questions that follow each passage*

PASSAGE-1

In a convention hall filled with auto executives who wish they could wake up to find the 2009 was just a bad dream, David Zuchowski and his colleagues at Hyundai were doing low-key victory laps. But while they plan in 2010 to pick up where they left off, they also tempered expectations that the US sales gains achieved by the Korean automaker can be repeated. "We will not have the same margin of difference that we did last year", David Zuchowski said at the Detroit auto show. "Our sales were up 8 percent in a market that was down 21 percent. There are a lot of things that happened with our competition, with our marketing, that really put us in a different area. We think for sure that we're going to grow our volume this year and we're going to grow our market share," he added. "If nothing else changes, and we held our 4.2 percent market share into 2010, we think that in itself accounts for 45,000 units of additional volume. And we think we're going to grow our share on top of that because we have some really terrific new products."

John Krafcik, CEO of Hyundai's American, sales operations, said the first goal is to hold onto the market share gains of 2009. Last year, Hyundai's US sales rose 8.3 percent to 435,064 units. Its share of the market jumped to 4.2 percent from 3 percent in 2008. Hyundai expects US sales this year to hit 11.4 million, may be even 11.5 million units. US sales fell 21.2 percent last year to 10.4 million units. As US automakers in early 2009 were concerned about their own survival, "Hyundai Assurance" was introduced as a safety net for consumers afraid of losing their jobs. Just shy of 100 customers returned cars under a programme allowing buyers to walk away from loans without a negative mark on credit reports if they lost their jobs. The programme has been extended through 2010.

"It elevated our brand," Zuchowski said of the Hyundai Assurance programme. "People who never used to consider us now are." Car salesmen watch this "consideration rate," which is as it sounds—whether a consumer will consider a brand when making a purchase decision.

181. According to the passage, the success of Hyundai in America is due to
- consideration rate has increased manifold.
 - the aim of Hyundai is to retain the market share of previous year.
 - continue Hyundai Assurance through 2010.
- (a) I, II and III (b) I and III
(c) I and II (d) II and III
182. It can be inferred from the passage that
- Hyundai is unable to sell their cars in American market.
 - Hyundai is optimistic of increasing their sales this year in America.
 - Car sales are going to plummet in America through 2010.
 - Both David Zuchowski and John Krafcik are at loggerheads.

183. According to the passage, subjects that are discussed include
- recession in the world economy.
 - the views of American car manufacturers.
 - the health of American economy.
 - Hyundai's extraordinary performance and its further plans in America.
184. Which of the following inferences is false according to the passage ?
- Hyundai is hopping to get more market share or at least maintain the last year's sales.
 - America stopped buying cars from South Korea.
 - America has still not reached its peak in car sales.
 - America has taken a conscious decision to buy more cars.

PASSAGE-2

The latest CSO data on economic growth in the States has thrown up a number of interesting trends, none perhaps more interesting than the catch-up trend shown by what were conventionally viewed as backward States-Bihar's 11% growth has already received much attention. A disaggregated look at the growth figures reveals an even more interesting fact—the huge role played by services in propelling growth in backward States. Bihar's 11 % average growth figure between FY05 and FY09 (up from 6% between FY01 and FY05) hides the massive 38.13% growth in construction (up from 14% between FY01 and FY05), 17.34% growth in communication (up from 10 % between FY01 and FY05), 17.33% in restaurants and hotels (up from 13% between FY01 and FY 05) all major services sectors, in the same period. The boom in construction, telephones (particularly mobiles) and hospitality is mirrored in other previously slow growing states, including Jharkhand, Madhya Pradesh and Orissa. What is even more important than the growth numbers themselves is the large number of jobs (particularly low skill and semi-skilled) that have been generated in the services sector industry. At a time when inclusive growth is the focus of government policy, such employment generating growth must be satisfying.

Impressive though the numbers are, it is easy to get carried away by them. The fact of the matter is that services can only create a certain number of jobs and certainly not enough over a sustained period of time to absorb the entire workforce. Construction, for example, may eventually be limited by weak demand. The growth in communications was very impressive in these last five years because of the mobile boom, but that might plateau. Significantly, the numbers on agriculture growth remain very low and a significant proportion of India's population still depends on agriculture. Not all the excess labour from agriculture—which needs to move out to lift productivity—will be absorbed by services. So, industry/manufacturing will still be the key to ensuring the kind of inclusive growth we need to boost backward States and to lift people out of poverty. But manufacturing needs radical policy attention in a way that services do not, to register rapid growth. The government, at the Centre and in States, needs to focus on labour laws, land acquisition and infrastructure. The strong growth in services, while welcome, should not become a reason to do nothing about promoting manufacturing and reforming agriculture. Healthy growth in those two sectors is needed to generate the demand that will eventually sustain services on a high growth path.

185. According to the passage, growth is possible in the economy if
- communications sector growth is static.
 - agricultural reforms are carried out.
 - manufacturing is promoted.
- 1, II and III
 - I and III
 - I and II
 - II and III
186. It can be inferred from the passage that
- services sector growth is possible only if mobile industry is promoted.
 - services sector growth is possible only if manufacturing and agricultural reforms are promoted.
 - services sector growth is possible only if growth in communications sector has plateaued.
 - services sector growth is possible only if construction is promoted.
187. Which one of the following subjects is discussed in the passage?
- Growth factor in Orissa
 - Importance of growth in Madhya Pradesh
 - Poverty in Jharkhand
 - Importance of agriculture and manufacturing for growth
188. Which of the following inferences is false as per the passage?
- Bihar has shown the maximum growth in the country.
 - Bihar has shown 38.13% growth in construction.
 - Bihar has shown 17.33% growth in restaurants and hotels.
 - Bihar has shown 11% average growth figure between FY05 and FY09.
190. It can be inferred from the passage that
- the trading volume does not depend on the past returns.
 - the trading volume largely depends on the past returns.
 - the trading volume has no positive correlation with volatility.
 - the trading volume depends on the variance decomposition.
191. According to the passage, subjects that are discussed does not include
- trends in returns vis-a-vis volatility.
 - stock market losses during recession.
 - information dissemination being slow within the market.
 - results of the research have more of statistical significance than economic.
192. According to the passage, which one of the following inferences is false ?
- Any shock in either returns or volume affects the return series beyond one lag.
 - In case of unconditional volatility and trading volume, there exists a positive contemporaneous relationship between trading volume and unconditional volatility.
 - Both returns and volume are mostly affected by their own lag.
 - The state of development of the market possibly does not allow instantaneous information dissemination.

PASSAGE-4

What can the leader of a democratic country do when one quarter of its population presents a petition opposing repayment of foreign debt and backs it up with a mass protest outside his residence, with red torches firing up the snowy landscape? To stave off revolt and breakdown of order, the head of State has two options; repudiate the debt altogether to restore public faith in the government or buy time by resorting to constitutional technicalities.

Iceland's President, Olafur Grimsson, faced this dour choice on New Year's Eve in Reykjavik and picked the latter course because of tremendous parallel pressure from creditors like the UK and the Netherlands and capital markets. Instead of immediately signing the bill that would have repaid London and Amsterdam \$5 billion or remouncing all liability, he announced a national referendum for a clear national verdict. The country's finance minister has expressed confidence that public opinion can be moulded fast in the run-up to the referendum, by appealing to the average Icelander's identity of being "honest hard-working people" who honour debts.

The two creditor nations, which are furious at the delays and setbacks to repayment, should be hopping for such an outcome because they themselves are cash-strapped and hurting from the aftermath of the financial crisis. The saga of Iceland's fall from the glorious perch of the Nordic Tiger into a supplicant that defaults on its debts is emblematic of the ripple effect of the financial collapse of late 2008. One of the first economies to fall into the red immediately after the Lehman Brothers bankruptcy, Iceland has risen since the mid-nineties on wave of excessive leverage facilitated by State deregulation. All three of its big banks— Glitnir, Kaupthing and Landsbanki—collapsed like dominoes in a single week of mayhem in October 2008.

PASSAGE-3

Having investigated the nature of the relationship between price and trading volume for 50 Indian stocks, our findings indicate evidence of positive contemporaneous correlation between price changes and trading volume in Indian stock markets. All the stocks, except Reliance Power, show asymmetric behaviour, which is in line with the research findings. Investigation of dynamic relationship between returns and trading volume shows very interesting results. We find evidence that in the Indian market, past returns cause trading volume, which can be easily conceived in an emerging market where the state of development of the market possibly does not allow instantaneous information dissemination. These results are further supported by the variance decomposition. However, in most cases the relationship lacks economic significance even though it is statistically significant. The results of impulse response analysis indicate that both returns and volume are mostly affected by their own lag and that volume is more auto regressive than returns, that is any shock in either returns or volume does not affect the return series beyond one lag. In case of unconditional volatility and trading volume, we find a positive contemporaneous relationship between trading volume and unconditional volatility.

189. According to the passage, the research finding show
- positive contemporaneous relationship between trading volume and volatility.
 - Reliance Power confirms the general trend.
 - information is not disseminated instantaneously in the stock market.
- A, B, and C
 - A and C
 - A and B
 - B and C

193. According to the passage, the state of affairs in Iceland is due to
- financial collapse of 2008.
 - the creditor nations are in dire straits themselves.
 - Iceland was one of the first economies to have fallen in 2008.
- A, B and C
 - A and C
 - A and B
 - B and C
194. It can be inferred from the passage that
- Iceland is a poor country.
 - Iceland is trying to repay the loan to the creditor nations.
 - Lehman Brothers have not given enough loan to Iceland.
 - The citizens of Iceland are not hard-working
195. According to the passage, subjects that are not discussed include
- recession in the world economy.
 - why Iceland is defaulting on repayment of its loans.
 - the revolt within the country for immediate repayment of loan to creditors.
 - UK and Netherlands have not agreed to sanction additional loans.
196. According to the passage, which one of the following inferences is not true ?
- Icelanders have actually revolted.
 - The creditor nations were not happy at the defaults by Iceland.
 - The three major banks of Iceland-Glitrnir, Kaupthing and Landsbanki-have collapsed.
 - Iceland's President, Olafur Grimsson resorted to delaying tactics.

PASSAGE-5

Buoyed by strong demand from automobile, infrastructure, consumer durables, and capital goods industries, the price of steel and profitability of steel firms are firming up. In addition to private demand, the government's stimulus packages have also helped. Analysts expect the margins of steel companies to expand by 500 basis points in the quarter ending December last year, because of the rally in the base metal prices. Crude steel production in the quarter ended December last year grew 2.6% and prices increased by 2% in the same period. Broadly, during April-December 2009, steel consumption grew by 8% and growth gathered momentum during the last three months partly due to the low base effect of the previous year. In fact, Indian steel-makers had reduced production by up to 40% in October-December 2008, as demand dropped significantly due to the slowdown and credit crunch. Even though fears of oversupply kept steel prices under pressure in the domestic market globally, too, companies had reduced the price of the metal-strong demand is now pulling up prices. Long product prices increased by nearly

Rs 4,000 per tonne in the second half of December and analysts expect prices to rise by another Rs 1,000 per tonne this month. Even on the bourses, Tata Steel, JSW Steel. Sterlite and SAIL have outperformed the broader markets with gains of around 55% in the quarter ended December and the BSE Metal Index too outperformed the Sensex. Despite the global slowdown, demand for steel in the domestic market remained strong due to the quick recovery in the automobile industry and government spending on infrastructure projects. In fact, a recent note from Nomura Research says that steel companies in India have enjoyed high operating rates resulting in robust performances. Even globally, the World Steel Organisation says that the slump in steel demand has bottomed out and is expected to grow by 9% this year as demand rebounds in the US, Europe and Japan. The organisation expects steel prices to increase by 10% in the next three months and inventory build-up will take place in anticipation of an increase in raw material costs.

197. According to the passage,
- Steel industry in India has done very well in the last one year.
 - The demand for steel has seen a decrease in the last one year.
 - During 2008 the demand for steel had gone down due to slowdown.
 - Government spending on infrastructure has helped the steel industry in India.
- A, B, C and D are correct
 - A, B and D are correct
 - A, B and C are correct
 - A and D are correct
198. The passage infers that
- The slowdown in the world economy has drastic effect on steel industry in India.
 - the demand and supply position of steel in India was very healthy during recession.
 - steel prices have been slashed in the last quarter.
 - the share prices of steel companies have been on the decline in the last quarter.
199. The recession caused
- the demand for steel to go down all over the world.
 - the demand for steel to go down drastically in India.
 - the construction activity to increase.
 - the automobile industry to increase their sales.
200. Which of the following statements is false ?
- In the second half of December the steel rates have increased by Rs 4,000 per tonne.
 - In this January the steel rates would have gone up by another Rs 1,000 per tonne.
 - Sensex has outperformed the BSE Metal Index.
 - During April-December 2009 the steel consumption has increased by 8%.

HINTS & EXPLANATIONS

1. (c) 2. (a) 3. (a) 4. (b) 5. (c) 6. (c)
7. (d) 8. (a) 9. (c) 10. (c) 11. (b) 12. (*)
13. (d) 14. (d) 15. (b) 16. (b) 17. (b) 18. (d)
19. (a) 20. (c) 21. (d) 22. (c) 23. (d) 24. (*)
25. (b) 26. (c) 27. (a) 28. (a) 29. (b) 30. (c)
31. (c) 32. (c) 33. (c) 34. (b) 35. (c) 36. (b)
37. (a) 38. (a) 39. (b) 40. (b)

Sol. (41-45)

The given information can be summarised as follows:

- 20% of the world humanity lives in South Asia.
 - South Asia has approximately half of the world's illiterates.
 - 46% of South Asia's adult population was literates.
 - 53% of Sub-Saharan Africa's adult population was literate.
 - 30% of birth by trained workers/nurse in South-Asia.
 - 10% infants die at infancy.
 - 4% dies before attaining the age of 5 years.
 - $\frac{1}{2}$ of 104 million juvenile malnutrition cases are to be seen in Bangladesh, Pakistan and India.
 - 42 million juvenile malnutrition (below the age of 5 years) cases are from India.
 - 44% of those who attend the school drop out after 5th standard.
 - 25% of South Asian children (125 million) under the age of 18, works as labourers.
 - 68% male children and 43% female children of South Asia are enrolled in school.
 - Only 42% female and 65% male are literate.
41. (d) 25% of South Asian children under the age of 18 = 125 million
So, the total number of children below the age of 18 in South Asia = $125 \times \frac{100}{25} = 500$ million
 42. (d) $(10 + 4)\%$ infants die either at infancy or before the age of 5 years, So only 86% survive.
Average % of children who enrolled in school
 $= \frac{68 + 43}{2} = 55.5\%$
44% children who attend the school do not drop before reaching 5th standard.
 \therefore Required Percentage = $86 \times 55.5 \times 44 = 21\%$.
 43. (b) South Asia has approximately half of the world's illiterates i.e., 50%.
 44. (d) 10% infants die at infancy.
4% die before attaining the age of 5 years.
Therefore $10 + 4 = 14\%$ of infants born in South Asia do not survive the age of 5.

45. (d) 53% of sub-saharan Africa's adult ws literates.
46% of South Asian adult was literates.
 \therefore Required literacy rate = $\frac{53 - 46}{46} = 15.21\%$
46. (d) From statement I
 $x = 2.5$ or 1.5
Statement II also does not give any unique value.
Hence neither statement I nor II is sufficient to provide the answer.
47. (c) From statement I we have
 $D > A$ and C
So, statement I alone is not sufficient to provide the answer.
From statement II we have
 $E > B > D$
So, statement II alone is not sufficient to provide the answer. But using both statements we can find $E > B > D > A$ and C
48. (c) Statement I alone is not sufficient as it only gives the ratio between C.P and S.P
Statement II alone is not sufficient as it only gives profit. But using both statements we can find the cost price of book.
49. (d) Statement I does not tell about foundation so it alone is not sufficient to give answer. Statement II also not sufficient as we cannot change cubic yard into tonnes.
50. (a) Statement I gives the percentage discount and profit, so we can find the wholesale cost using statement I alone. Statement II only gives S.P. so, we cannot find the required answer using it.
51. (a) From statement I we find $150 - 30 = 120$ students who pass either one subject or both subjects. Hence using this statement we find the students who pass in both subjects $(90 + 50 - 120)$. Statement II gives irrelevant information.
52. (d) From statement I we cannot find the value of 'b' while using statement II we cannot find the value of 'a'. Combining both statements will not give the answer of given question.
53. (c) From statement I we find the positions of Shyam, Ram and Narendra. So using it we cannot find the answer. Statement II gives the positions of Ramesh in queue but we cannot find the answer using it alone. Since both statements give the positions of all five persons and 1st person of the queue. So, we can give the answer using both statements.
54. (c) Statement I gives $Y > Z$ and statement II gives $A > Y > X$. Hence either statement I alone or statement II alone is not sufficient to provide the answer. But using both statements we can say that 'A got the maximum marks'.

55. (d) Statement I is not sufficient as we cannot find the value of required two digit number. Similarly statement II alone is not sufficient to provide the answer. When we use both statements we find the 2-digit number which can be 42 or 24.

56. (a) A. $16 \div 4 + 8 \times 2 - 8 = 4 + 16 - 8 = 12$

B. $3 \times 4 + 1 \div 5 - 3 = 12 + \frac{1}{5} - 3 = \frac{46}{5}$

Hence, $A > B$.

57. (a) A. $\frac{0.01}{0.1} = \frac{1}{10} = 0.1$

B. $0.01 \times 0.1 = 0.001$

Hence, $A > B$.

58. (a) A. $9\sqrt{\frac{1}{3}} = \sqrt{9 \times 9 \times \frac{1}{3}} = \sqrt{9 \times 6 \times \frac{1}{2}}$

B. $6\sqrt{\frac{1}{2}} = \sqrt{6 \times 6 \times \frac{1}{2}}$

Hence, $A > B$.

59. (c) A. $\pi 10$

B. $2\pi 5 = 10\pi$

60. (a) A. $2\pi \times 1 = 6.28 \text{ cm}$

B. $1.5 \times 4 = 6 \text{ cm}$

61. (*) Readership of English magazines
 $200000 + 100000 + 100000 + 60000 = 460000$
 Total English Magazines = $17 + 7 + 5 + 6 = 35$
 Readership of Hindi magazines
 $180000 + 70000 + 150000 + 25000 = 425000$
 Total Hindi Magazines = $15 + 4 + 7 + 4 = 30$

$$\text{Required average} = \frac{460000 + 425000}{30 + 35} = 13615.38$$

* None of the given options is correct.

62. (b) Number of magazines in 2001 (English + Hindi)
 $= 12 + 3 + 3 + 4 + 10 + 2 + 4 + 2 = 40$

Number of magazines in 2003 (English + Hindi)
 $= 17 + 7 + 5 + 6 + 15 + 4 + 7 + 4 = 65$

\therefore Total magazines added = $65 - 40 = 25$

63. (c) Number of Hindi magazines in 2001
 $= 10 + 2 + 4 + 2 = 18$

Number of Hindi magazines in 2002

$= 14 + 3 + 6 + 3 = 26$

Added Hindi magazines = $26 - 18 = 8$

Similarly added English magazines

$= 30 - 22 = 8$

\therefore Required ratio = $\frac{8}{5} = 1$

64. (d) Readership per magazine can be tabulated as below:

Category	2001	2002
General	$\frac{2200}{22} = 100$	$\frac{3100}{29} = 106.89$
Sports	$\frac{600}{5} = 120$	$\frac{1000}{8} = 125$
Film	$\frac{1400}{7} = 200$	$\frac{2100}{11} = 190.90$
Business	$\frac{400}{6} = 66.66$	$\frac{550}{8} = 68.75$

Only FILM magazines show the decline in 2002 against 2001.

65. (a) Readership of English sports magazines in 2001 = 40000
 Readership of English sports magazines in duration 2001 - 2004
 $= 40000 + 60000 + 100000 + 120000 = 320000$

$$\text{Readership ratio} = \frac{40000}{320000} = \frac{1}{8}$$

66. (d) The amount of private placement raised as a percentage of total fund in

$$2004 - 05 = \frac{7568}{7568 + 14738 + 20170} \times 100 = 17.8\%$$

$$2005 - 06 = \frac{11715}{11715 + 13658 + 26430} \times 100 = 22.6\%$$

$$2007 - 08 = \frac{7572}{7572 + 2755 + 13010} \times 100 = 32.4\%$$

$$2008 - 09 = \frac{6452}{6452 + 2575 + 2244} \times 100 = 57.2\%$$

Hence percentage raise was maximum in 2008-09

67. (a) Total amount of funds raised
 $2004 - 05 = 7568 + 14738 + 20170 = \text{Rs. } 42476 \text{ crore}$
 $2005 - 06 = 11715 + 13658 + 26430 = \text{Rs. } 51803 \text{ crore}$
 $2007 - 08 = 7572 + 2755 + 13010 = \text{Rs. } 23337 \text{ crore}$
 $2008 - 09 = 6452 + 2244 + 2575 = \text{Rs. } 11271 \text{ crore}$
 Hence total number of funds raised was the least in year 2008 - 09.

68. (d) Required average = $\frac{20170 + 18375 + 13010 + 2575}{4}$

= Rs. 13532.5 crore

69. (b) Amount raised by public issue
 $20170 + 26430 + 18375 + 13010 + 2575 = \text{Rs. } 80560$
 Total amount raised
 $= 80560 + 7568 + 11715 + 6624 + 7572 + 6452 + 1473 + 13658 + 7598 + 2755 + 2244 = \text{Rs. } 161484 \text{ crore}$

\therefore Required percentage = $\frac{80560}{161484} \times 100 = 49.88\%$

70. (a) Amount raised by rights issue in 2005–06 = Rs. 13658
 Amount raised by right issue in 2006–07 = Rs. 7598
 Percentage decrease = $\frac{13658 - 7598}{13658} \times 100 = 44.36\%$

71. (b) Required ratio = $\frac{25 \times 3 + 26 \times 5 + 35 \times 2}{49 \times 3 + 35 \times 5 + 30 \times 2} = 0.719$

72. (*) Required increase = $\frac{35 - 26}{26} \times 100 = 34.6\%$

* None of the given options is correct.

73. (*) Total usage in 2009 = $490 + 25 + 30 + 35 + 49 = 629$ billion litre
 Irrigation usage in 2009 = 490

\therefore Required percentage = $\frac{490}{629} \times 100 = 77.9\%$

* None of the given options is correct.

74. (d) Domestic usage in

$$2006 = \frac{35}{410 + 35 + 35 + 26 + 25} \times 100 = 6.59\%$$

Domestic usage in

$$2009 = \frac{30}{490 + 25 + 30 + 35 + 49} \times 100 = 4.77\%$$

\therefore Required difference = $6.59 - 4.77 = 1.82\%$

75. (b) From the visual observation of pie chart we can say that industrial usage shows the highest percentage

increase $\left(\frac{49 - 25}{25} \times 100 = 96\% \right)$

76. (d) Required average growth rate
 $= \frac{60,000 - 30,000}{30,000} \times 100 = 33.33\%$

77. (c) From the visual observation we can see that year 2004 shows the maximum percentage change in the average price per car of PAL with respect of previous year.

$$\frac{6 - 3.75}{6} = 37.5\%$$

78. (a) Total production of cars in 2002 = 300000
 Total production of PAL cars in 2002 = 50000

\therefore Required share of PAL car = $\frac{50000}{300000} \times 100 = 16.67\%$

79. (d) Revenue of PAL company cannot be determined as we have the average price per car not the actual price per car.

80. (c) Production rejected in 2000 = $40000 \times \frac{10}{100} = 4000$

Thus the products available for sale = $40000 - 4000 = 36000$

\therefore Required turnover = $36000 \times 3,00,000 = 1080$ crore.

81. (b) Volume of oil = $\pi \times 6^2 \times 14 = 504\pi \text{ m}^3$

Volume of conical can = $\frac{1}{3} \times \pi(6)^2 \times 6 = 72\pi \text{ m}^3$

Volume of spherical can = $\frac{4}{3} \times \pi(6)^2 = 288\pi \text{ m}^3$

\therefore Remaining oil = $504\pi - (228\pi + 72\pi) = 144\pi \text{ m}^3$

\therefore Volume of cylindrical can = $\pi \times (6)^2 \times h$

According to question

$144\pi = \pi \times 36 \times h$

$\therefore h = 4\text{m}$

Now $\frac{3}{4}$ of cylindrical can be filled.

Oil dropped = $\frac{1}{4} \times \pi \times (6)^2 \times 4 = 36\pi \text{ m}^3$

82. (d) Let the length of previous rectangle be L . Then new length of rectangle = $\frac{3}{2}L$

Let the breadth of previous rectangle be B .

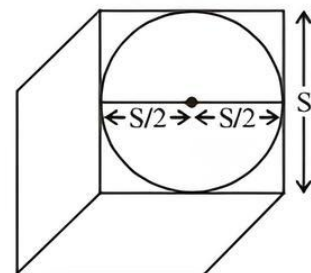
Then new breadth of rectangle = $\frac{2}{3}B$

Now, previous area of rectangle = LB ... (i)

and new area = $\frac{3}{2}L \times \frac{2}{3}B = LB$... (ii)

There would be no any change in area of rectangle.

83. (b)



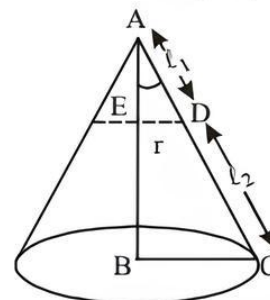
Let the each side of cube be S and radius of sphere be r

Volume of cube = S^3

According to question

$$r = \frac{S}{2} = \frac{\text{Volume of cube}}{\text{Volume of sphere}} = \frac{S^3}{\frac{4}{3} \times \frac{22}{7} \times \frac{x^3}{8}} = \frac{21}{11}$$

84. (c)



Let R and r be the radius and ℓ_1 and ℓ_2 be slant height of the bigger and smaller cone respectively.

Curved surface area of cone = $\pi R(\ell_1 + \ell_2)$

Curved surface area of remainder = $\pi(R+r)\ell_2$

According to question

$$\frac{8}{9} \times \pi R(\ell_1 + \ell_2) = \pi(R+r)\ell_2$$

$$8R\ell_1 = \ell_2(R+9r)$$

$$\frac{\ell_1}{\ell_2} = \frac{R+9r}{8R} = \left(\frac{1}{8} + \frac{9r}{8R}\right)$$

...(i)

Now in $\triangle ABC$ and $\triangle ADE$

According to sin rule $\frac{R}{\ell_1 + \ell_2} = \frac{r}{\ell_1}$

$$\frac{r}{R} = \frac{\ell_1}{\ell_1 + \ell_2}$$

From eq (i)

$$\frac{\ell_1}{\ell_2} = \left(\frac{1}{8} + \frac{9}{8} \times \frac{\ell_1}{\ell_1 + \ell_2}\right)$$

$$\Rightarrow \frac{8\ell_1}{\ell_2} - \frac{9\ell_1}{\ell_1 + \ell_2} = 1$$

$$8\ell_1^2 + 8\ell_1\ell_2 - 9\ell_1\ell_2 = \ell_1\ell_2 + \ell_2^2$$

$$8\ell_1^2 - 4\ell_1\ell_2 + 2\ell_1\ell_2 - \ell_2^2 = 0$$

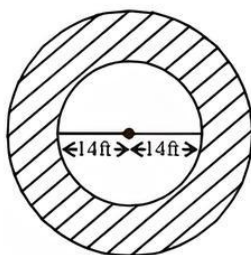
$$4\ell_1(2\ell_1 - \ell_2) + \ell_2(2\ell_1 - \ell_2) = 0$$

$$(2\ell_1 - \ell_2)(4\ell_1 + \ell_2) = 0$$

$$2\ell_1 = \ell_2$$

$$\frac{\ell_1}{\ell_2} = \frac{1}{2}$$

85. (c)



Let r be the radius of swimming pool and R be the radius of swimming pool with deck.

Area of swimming pool with deck

$$\pi R^2 = \pi r^2 + 60\pi$$

$$= \pi 14^2 + 60\pi = 256\pi$$

$$\Rightarrow \pi R^2 = 256\pi$$

$$\therefore R = 16$$

$$\text{width of deck} = 16 - 14 = 2 \text{ feet.}$$

86. (a) Surface area of hemisphere = $2\pi r^2$

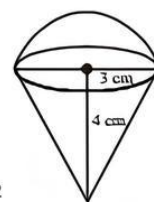
$$= 2\pi(3)^2 = 18\pi \text{ cm}^2$$

Surface area of cone = $\pi r\ell$

$$\ell = \sqrt{4^2 + 3^2} = 5$$

$$\text{Area} = \pi \times 3 \times 5 = 15\pi \text{ cm}^2$$

$$\text{Total surface area} = 18\pi + 15\pi = 33\pi \text{ cm}^2$$



87. (b) Let amount invested at 12% be x and amount invested at 10% be y .

According to question

$$130 = \frac{x \times 12 \times 1}{100} + \frac{y \times 10 \times 1}{100}$$

$$\Rightarrow 13000 = 12x + 10y \quad \dots(i)$$

$$\text{And } 134 = \frac{x \times 10 \times 1}{100} + \frac{y \times 12 \times 1}{100}$$

$$\Rightarrow 13400 = 10x + 12y \quad \dots(ii)$$

From equations (i) and (ii)

$$x = 500$$

88. (d) 8% per annum payable half yearly,
So effective rate = 4%

$$\text{Effective annual rate} = +4 + 4 + \frac{4 \times 4}{100} = 8.16\%$$

89. (a) Simple interest for 1 yr = $\frac{5100}{3} = \text{Rs } 1700$

$$1\% \text{ of sum} = 1700$$

$$\text{Then sum} = \frac{1700 \times 100}{1} = \text{Rs } 1,70,000$$

90. (d) Let principal be P and rate of interest be r

$$\text{then } \frac{P \times r \times 3}{100} + P = 300 \quad \dots(i)$$

$$\text{and } \frac{P \times r \times 8}{100} + P = 400 \quad \dots(ii)$$

Subtracting (i) from (ii), we get

$$\therefore P \times r = 2000$$

Now from equation (i)

$$\therefore P = \text{Rs } 240$$

$$\text{and } 240 \times r = 2000$$

$$r = 8.33\%$$

91. (b) Let the rate of interest be R

According to question

$$4800 = 3600 \left(1 + \frac{R}{100}\right)^3$$

$$\frac{4}{3} = \left(1 + \frac{R}{100}\right)^3 \quad \dots(i)$$

Now the population after 3 yr

$$= 4800 \left(1 + \frac{R}{100}\right)^3$$

Now from equation (i)

$$= 4800 \times \frac{4}{3} = 6400$$

92. (c) Let Shyam's share be x
According to question

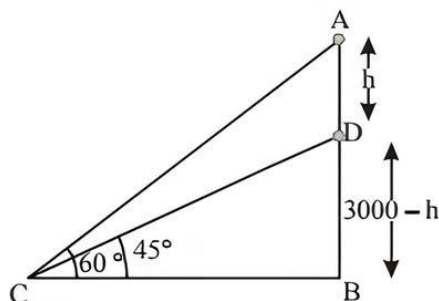
$$x \left(1 + \frac{5}{100}\right)^9 = (5887 - x) \left(1 + \frac{5}{100}\right)^{11}$$

$$\frac{x}{5887 - x} = \left(1 + \frac{5}{100}\right)^2$$

$$\frac{x}{5887 - x} = 1.1025$$

$$x = \text{Rs } 3087.$$

93. (a) Let the vertical distance between the two planes be h



In $\triangle ABC$

$$\tan 60^\circ = \frac{3000}{BC}$$

$$BC = \frac{3000}{\sqrt{3}} \text{ m} \quad \dots(i)$$

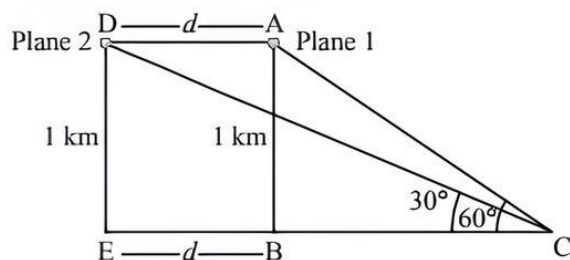
In $\triangle BCD$

$$\tan 45^\circ = \frac{3000 - h}{BC}$$

$$\Rightarrow BC = 3000 - h \quad \dots(ii)$$

Equating and solving equations (i) and (ii), we get
 $h = 1268 \text{ m}$

94. (a) Let the distance position between the plane's be d km and speed of plane be x km/h



$$\text{In } \triangle ABC, \tan 60^\circ = \frac{1}{BC}$$

$$BC = \frac{1}{\sqrt{3}} \quad \dots(i)$$

$$\text{In } \triangle DEC, \tan 30^\circ = \frac{1}{EC}$$

$$EC = \sqrt{3}$$

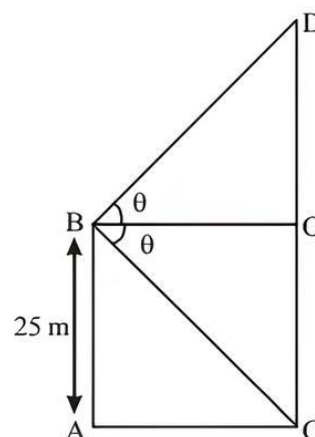
$$\text{So, } EB = d = EC - BC$$

$$d = \sqrt{3} - \frac{1}{\sqrt{3}} = \frac{2}{\sqrt{3}}$$

Now the speed of plane

$$x = \frac{\frac{2}{\sqrt{3}}}{\frac{10}{3600}} = \frac{2 \times 3600}{\sqrt{3} \times 10} = 240\sqrt{3} \text{ km/h}$$

95. (b)



Let AB be the cliff and CD be the tower.

In $\triangle OBC$ and $\triangle OBD$

$$\angle OBC = \angle OBD = \theta$$

OB is common

$$\therefore BC = BD$$

So triangles are congruent.

$$\therefore OC = OD = 25 \text{ m.}$$

Height of the tower = $OC + OD = 50 \text{ m.}$

96. (d) Let the unit and ten places of two digit number be x and y respectively.

Then number will be $10y + x$

According to question

$$2(10y + x) = 9(10x + y) \quad \dots(i)$$

$$\text{and } x + y = 9 \quad \dots(ii)$$

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

$$x = 1 \text{ and } y = 8$$

Hence number = 81

97. (b) Let there are r rows and x students in each row.

According to question

$$(x + 4)(r - 4) = x \times r$$

$$\Rightarrow -4x + 4r = 16 \quad \dots(i)$$

$$(x - 2)(r + 4) = x \times r$$

$$\Rightarrow 4x - 2r = 8 \quad \dots(ii)$$

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

$$2r = 24$$

$$\Rightarrow r = 12$$

$$\therefore 4x - 24 = 8$$

$$x = 8$$

$$\therefore \text{Total number of students} = 8 \times 12 = 96$$

98. (d) Let Nikhil has Rs. x and Yogesh has Rs. y
According to question

$$\frac{1}{4}x = \frac{1}{6}y \quad \dots(i)$$

$$\text{and } x + y = 600 \quad \dots(ii)$$

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

Nikhil has Rs. $x = \text{Rs. } 240$

and Yogesh has Rs. $y = \text{Rs. } 360$

99. (c) Let the number of days be d

Students	Pencils	Days
5	18	9
15	66	d

$$\text{Required days} = 9 \times \frac{5}{15} \times \frac{66}{18} = 11 \text{ days}$$

100. (d) Let the amount at 8% rate be Rs x then amount at 8.5% rate be $(25000 - x)$

According to question

$$\frac{x \times 8 \times 1}{100} + \frac{(25000 - x) \times 8.5 \times 1}{100} = 2031.253$$

$$8x + 212500 - 8.5x = 203125$$

$$-0.5x = -9375$$

$$x = \text{Rs } 18750$$

101. (a) Let the person's salary be x
He spends on education = $0.4x$
books = $0.24x$

$$\text{stationary items} = \frac{(0.4 - 0.24)x}{2}$$

$$= 0.08x$$

$$\text{Remaining amount} = 0.4x - (0.24x - 0.08x) = 0.08x$$

According to question

$$\frac{1}{4} \times 0.08x = 160$$

$$\therefore x - \frac{160 \times 4}{0.08} = \text{Rs. } 8000$$

102. (b) The error percent in area = $+5 - 6 - \frac{5 \times 6}{100} = -1.3\%$

103. (c) Percentage increase = $\frac{21 - 15}{15} \times 100 = 40\%$

104. (c) Number of triangle formed by 11 points = ${}^{11}C_3$

$$= \frac{11!}{3! \times 8} = 165$$

Number of triangle formed by 5 points (which are collinear) = 5C_3

$$= \frac{5!}{3! \times 2!} = 10$$

$$\text{Number of triangle} = 165 - 10 = 155$$

105. (d) Number of ways of selecting one or more friends from 5 friends

$$= {}^5C_1 + {}^5C_2 + {}^5C_3 + {}^5C_4 + {}^5C_5$$

$$= 5 + 10 + 10 + 5 + 1 = 31 \text{ ways}$$

Number of ways of selecting one or more friends from 4 friends

$$= {}^4C_1 + {}^4C_2 + {}^4C_3 + {}^4C_4$$

$$= 4 + 6 + 4 + 1 = 15 \text{ ways}$$

$$\text{Total ways} = 31 + 15 = 46 \text{ ways}$$

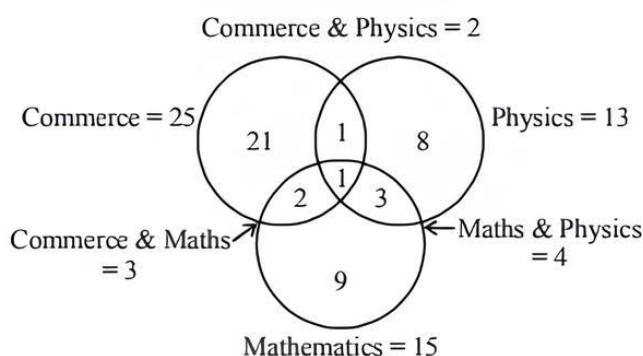
106. (a) Total students = 80

Commerce students = 25

Mathematics students = 15

Physics students = 13

We can draw the venn diagram as follows



Total students studying at least one subject

$$= 21 + 1 + 2 + 1 + 9 + 3 + 8 = 45$$

Students who are not studying any of three subjects

$$= 80 - 45 = 35$$

107. (a) Filling done by all 3 pipes in 3 minutes

$$= \frac{3}{20} + \frac{3}{10} + \frac{3}{30} = \frac{11}{20}$$

$$\text{Filling done by 2nd pipe in 3 minutes} = \frac{3}{10}$$

$$\text{So, required ratio} = \frac{\frac{3}{10}}{\frac{11}{20}} = \frac{6}{11}$$

108. (b) Filling done by pipe A and B in 1 hour = $\frac{1}{12} + \frac{1}{15} = \frac{3}{20}$

$$\text{Filling done by pipe A and C in 1 hour} = \frac{1}{12} + \frac{1}{20} = \frac{2}{15}$$

$$\text{Filling done in first 2 hour} = \frac{3}{20} + \frac{2}{15} = \frac{17}{60}$$

$$\text{Filling done in 6 hour} = \frac{17}{60} \times 3 = \frac{51}{60}$$

$$\text{Remaining filling} = 1 - \frac{51}{60} = \frac{3}{20}$$

$$\text{Now in 7th hour, filling done by A and B,} = \frac{\frac{3}{20}}{\frac{20}{3}} = 1 \text{ h}$$

So total time = 7 hours

109. (d) Number of ways of visiting four cities = $4! = 24$
Number of ways of visiting A just before B is

$$\boxed{A \ B} \ C \ D = 3! = 6$$

$$\text{Required probability} = \frac{6}{24} = \frac{1}{4}$$

110. (a) Total possible cases = ${}^{12}C_3$

$$= \frac{12 \times 11 \times 10 \times 9!}{3! \times 9!} = 220 \text{ ways}$$

Total ways of selecting three non-defective bulbs

$$= {}^8C_3 = \frac{8 \times 7 \times 6 \times 5!}{3! \times 5!} = 56$$

$$\text{Required probability} = \frac{56}{220} = \frac{14}{55}$$

111. (b) Let the original time be T hours and original speed be x km/h

$$\frac{1500}{x} = T \quad \dots(i)$$

$$\frac{1500}{x+250} = T - \frac{30}{60} \quad \dots(ii)$$

Solving equation (i) and (ii), we get

Speed of plane = $x = 750$ or -1000 (not possible)

$$\therefore x = 750 \text{ km/h}$$

112. (b) Person's daily expenses = Rs x
Number of days tour last = y days

$$\text{So, } x \times y = 360 \quad \dots(i)$$

$$(x-3)(y+4) = 360 \quad \dots(ii)$$

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

$$y = 20 \text{ or } -24 \text{ (not possible)}$$

$$\therefore y = 20 \text{ days}$$

113. (a) Amount given on first birthday = Rs 100

on 2nd birthday = Rs 200

on 3rd birthday = Rs 400

on 4th birthday = Rs 800

on 5th birthday = Rs 1600

on 6th birthday = Rs 3200

on 7th birthday = Rs 6400

on 8th birthday = Rs 12800

So total amount = Rs 25,500

114. (c) Let he purchase x pairs of brown socks.
Price of black socks and brown socks be Rs $2a$ and Rs a per pair respectively.

$$\frac{3}{2}(4 \times 2a + x \times a) = x \times 2a + 4 \times a$$

$$12a + \frac{3}{2}xa = 2xa + 4a$$

$$12 + \frac{3}{2}x = 2x + 4$$

$$\frac{x}{2} = 8$$

$$\therefore \text{Required ratio} = \frac{4}{16} = \frac{1}{4}$$

115. (a) $1105 = 11x + 10 + 18x + 20 + 24x + 15$

$$1105 = 53x + 45$$

$$x = 20$$

Amount with Champa = $24x + 15$

$$= 24 \times 20 + 15 = \text{Rs. } 495$$

116. (b) Distance (D) = Speed (S) \times Time (T)

$$D = 4 \times \left(T + \frac{15}{60} \right)$$

$$D = 4T + 1 \quad \dots(i)$$

$$D = 6 \left(T - \frac{10}{60} \right)$$

$$D = 6T - 1 \quad \dots(ii)$$

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

$$T = 1 \text{ h}$$

$$D = 4 \times 1 + 1 = 5 \text{ km}$$

117. (a) Let the normal speed of train = x km/h

Let the normal time of train = T hours

$$\frac{300}{x} = T \quad (i)$$

$$\frac{300}{x+5} = T - 2 \quad (ii)$$

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

$$x = 25, -30 \text{ (not possible)}$$

Speed of train = 25 km/h

118. (d) Let that amount be Rs. x and rate be $r\%$

Then for simple interest

$$\frac{x \times r}{100} = 25$$

$$x \times r = 2500$$

For true discount

$$\frac{(x-20) \times r}{100} = 20$$

$$xr - 20r = 2000$$

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

$$2500 - 20r = 2000$$

$$r = 25\%$$

$$xr - 20r = 200$$

119. (a) In 1st case the amount is Rs 12000

In 2nd case, let the present value of money be x

$$\frac{x \times 18 \times 8}{12 \times 100} + x = 12880$$

$$0.12x + x = 12880$$

$$x = \frac{12880}{1.12} = \text{Rs } 11500$$

∴ Rs 12000 in cash is the better offer.

120. (b) Let the present value of money be x

$$\frac{x \times 12}{100} + x = 10028$$

$$x = \frac{10028}{1.12}$$

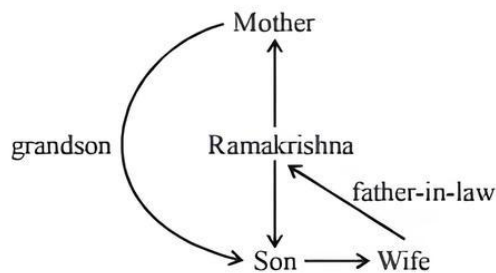
This amount after 3 months

$$\frac{\frac{10028}{1.12} \times 12 \times 3}{12 \times 100} + \frac{10028}{1.12}$$

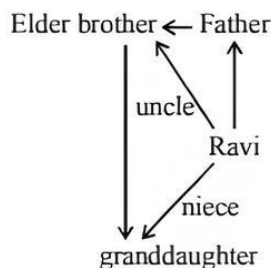
$$\frac{10028 \times 3}{1.12 \times 100} + \frac{10028}{1.12}$$

$$= \frac{10028 \times 103}{112} = 9222.17 \approx \text{Rs } 9200$$

121. (b)



122. (a)



123. (a) Without knowing enemy's interaction we should not inter into a no-war-pact. Thus both A and R are true and R is the correct explanation of A.

124. (d) Presidential type of government is not the solution of political disorder in the country. Thus A is false but R is true.

125. (b) It is not necessary that more autonomy/ freedom encourages separatist tendencies. Thus both A and R are true but R is not the correct explanation of A.

126. (c) A is true as it will be in favour of those women who are suffering in their married life. But reason is not true as women will not seek divorce frequently.

127. (d) I is not implicit as statement does not say about arranged marriages. II is not implicit as the statement does not give any relation between one parent and divorce.

128. (a) The proper nourishment will make the monkeys or human beings work properly. So the assumption I is implicit. Assumption II is not implicit as there is no information about captive or wild monkeys.

129. (c) Enforcing a penalty will motivate people to pay the bills. So assumption I is implicit. Assumption II is implicit as it is a general tendency to act accordingly when a penalty clause is slapped.

130. (d) Assumption I is not implicit as from the statement, it is not clear that the environment of city is polluted due to these factories or there is some other reason of pollution.

It is also not clear from the statement that there is some land available or not outside the city limit, so assumption II is not implicit.

131. (a) Assumption I is implicit as the company 'A' is setting a quality standard. Assumption II is not implicit as company 'A' is defining the standard and is selective to provide the contract and not expressing its expectation.

132. (b) $6 \times 2 - 3 \times 1 = 12 - 3 = 9$

133. (c) $2 + 7 \times 16 - (8 - 7) - (9 \div 3) = A$

$$2 + 7 \times 16 - 1 - 3 = A$$

$$2 + 112 - 4 = A$$

$$114 - 4 = A$$

$$A = 110$$

134. (a) $\frac{162}{3} = \frac{54}{3} = \frac{18}{3} = \frac{6}{3} = 2$

135. (a) In the first figure:

$$6 = 1 + 5$$

$$2 = 1 + 1$$

$$4 = 2 + 2$$

In the second figure

$$5 = 3 + 2$$

$$7 = 1 + 6$$

$$8 = 3 + 5$$

136. (c)

c	o	m	e		a	t		o	m	c	e		f	a	t	h	e	r		v	e	r	y		i	i	i
X	L	N	V		Z	G		L	M	X	Y		U	Y	G	S	V	I		E	V	I	B		R	O	O

Hence code for mother is NLGSVI the

137. (b) The code is the sum of the Alphabetical positions of letters in alphabet

Hence code or STABLE

$$= 19 + 20 + 1 + 2 + 12 + 5$$

$$= 59$$

138. (c)

Mahes > Vikas; Vikas > Jagan; Suresh > Jagan;

1 yr 2 yr 1 yr

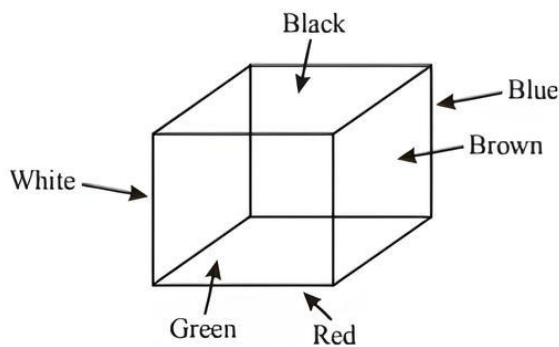
Mahesh > Suresh; Jagan > Akmal

2 yr 2 yr

Combining all five informations, we get

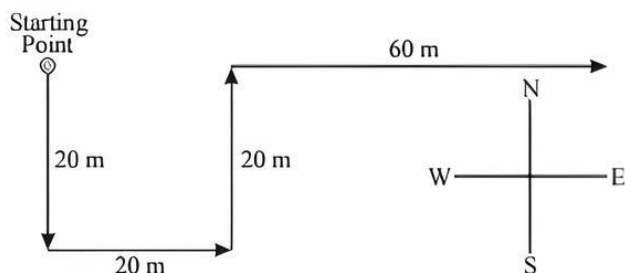
Mahesh > Vikas > Suresh > Jagan > Akmal

139. (c)



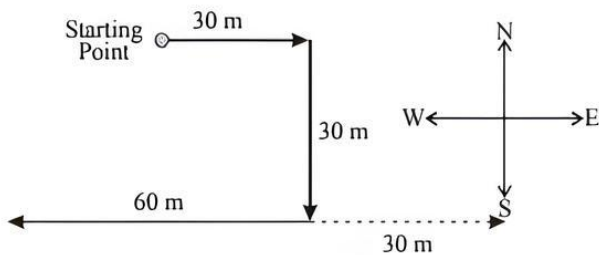
So, the side opposite to brown is white.

140. (c)



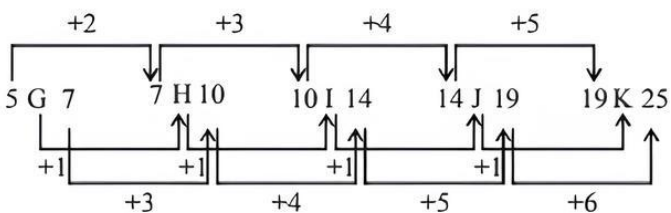
So, person is now going in east.

141. (c)

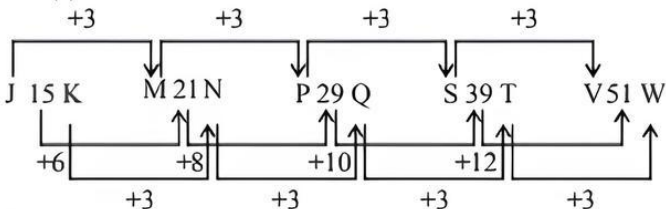


So, man is now facing towards east.

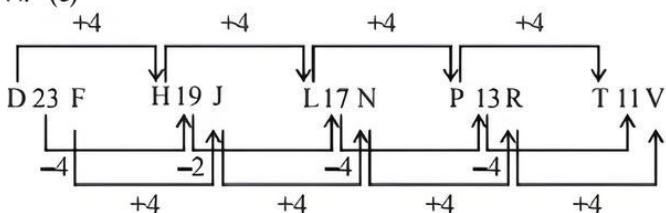
142. (d)



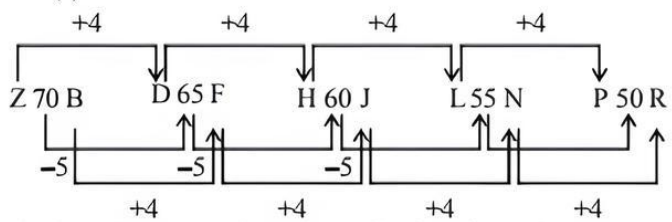
143. (c)



144. (c)



145. (c)



146. (c) Persons who play all the three instruments

$$= 120 \times \frac{5}{100} = 6$$

the number of musicians who can play any two and only two instrument = 30

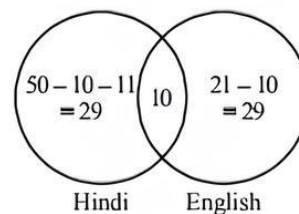
∴ Total number of those who can play violin alone or flute alone = $120 - (40 + 30 + 6) = 120 - 76 = 44$

147. (a)

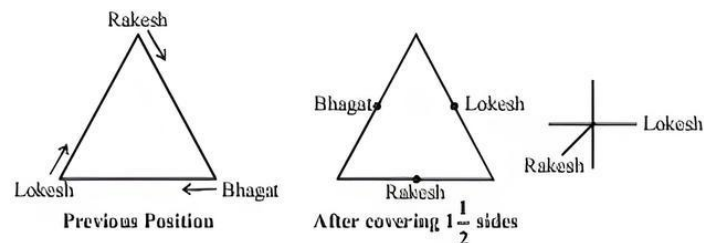
Total number of students = 50

Students who can speak English = 21

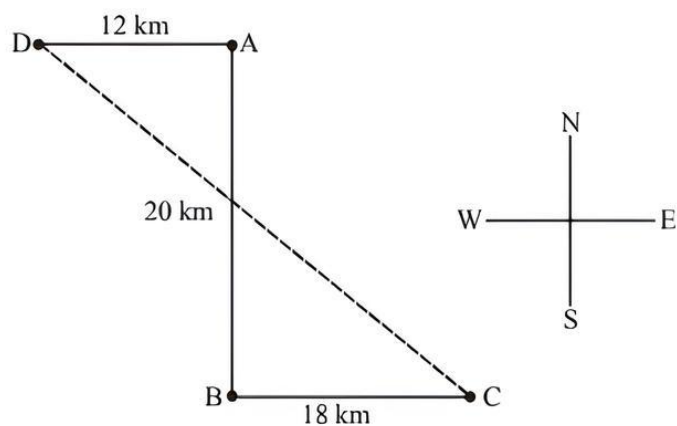
Students who can speak both English and Hindi = 10



148. (b)



149. (b)



150. (a)

There are two such even numbers which are exactly divisible by its immediate preceding number but not exactly divisible by immediate following number.

151. (d)

F & G → girls
A & B → Brothers
A → Doctor
E → Engineer

$\begin{matrix} - & + \\ E & + A \\ \downarrow & \text{child} \\ C & \& F \end{matrix}$ $\begin{matrix} - & + \\ B & + D \\ \downarrow & \text{child} \\ G \end{matrix}$

152. (a) Let the distance covered by taxi = x km.
Let the distance covered by car = y km.
So, $x + y = 80$... (i)
 $15x + 5y = 500$... (ii)
Solving both the equations
 $x = 10$ km.

153. (c) Given, Boys : Girls = 3 : 1
So, 42 is not possible as it is not divisible by (3 + 1) = 4

154. (c) Work with option
If the money between Ravi and Ramu = Rs 13

	Ravi	Ramu
Before win	8	5
After win		$5 \times 3 = 15$ = which is Rs 2 more than the original amount.

155. (b) Number should be of the form
 $3n_1 + 1, 4n_2 + 1, 5n_3 + 1, 6n_4 + 1$
Required number = LCM (3, 4, 5, 6) + 1
= 301

156. (a) The 7th day will be Tuesday, then 14th day will be Tuesday. Thus 19th day will be Sunday.

157. (c)

	Management (points)	Mathematics (points)	Physics (points)	Fiction (points)
Possible combinations (No. of books of each subject)	1 (4)	1 (3)	1 (2)	1 (1)
Compulsory combination	2 Fiction (2)	2 Physics (4)	none	none

Thus 2 more books of Physics (4 points) can be carried along with the above said combination by which 1 can earn a total of 22 points.

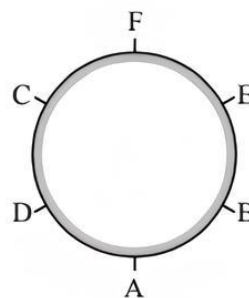
158. (b) Work with option, we find that option C represents X is the uncle of M.

159. (d) Given information can be tabulated as below :

	Politicians	Poets	Warriors	Mathematicians	Business men
Bengalis	✓	✓	✓		✓
Tamils	✓	✓	✓	✓	
Punjabis	✓		✓	✓	✓
Gujaratis	✓	✓		✓	✓
Kashmiris		✓	✓	✓	✓

Thus, Gujaratis are politicians, businessmen, poets and mathematicians.

160. (d) Given information can be shown as below :



So, the position of A in relation to F is third to the right.

161. (c) Only option (c) CABDE forms a logical sequence.
162. (c) Only option (b) BEDEA forms a logical sequence.
163. (c) Only option (a) DACBE forms a logical sequence.
164. (c) Only option (C) BCDAE forms a logical sequence.
165. (b) Scrimp is to live on a very little money. Lavish is living extravagantly. Parsimonious means mean for money.
166. (c) Delectable is delightful or pleasant. Distasteful is unpleasant. Agonising means giving anxiety.
167. (b) Grave means seriously important. Inconsequential means unimportant. Solemn means serious and Senile means old and getting weaker.
168. (a) Confidant is one who is very close and shares secret. Turncoat is a cheat who deserts a party for his benefit.
169. (d) Amalgamate is to merge or blend. Split is to separate. Impoverish is to make poor in quality or money. Consecrate is to devote something for religious purpose.
170. (a) Boisterous is noisy and lively. Serene is calm and quiet. Tumultuous is agitated or turbulent. Opaque means not transparent.
171. (b) 'Was' should be replaced by 'were'
172. (b) 'Were' should be replaced by 'was'
173. (a) 'Become' Should be replaced by 'became'.
174. (c) 'The other applicant' should be replaced by the other applicant's.
175. (c) 'to enforced' should be replaced by 'to be enforced'.
176. (d) 'effect' should be replaced by 'affect'.
177. (d) Markets are not always sensitive to consumer behaviour in the way consumers believe them to be.
178. (c) When foreign policy makes its demands on the domestic policy of a nation, its citizens are doomed.
179. (b) Human greed is as great a threat to the environment as is human need.

180. (d) Air Traffic Control is able to predict the weather but not overcome it, despite amazing advances in technology.
181. (a) Statement I regarding "consideration rate" is mentioned in the last sentence of the passage. Statement II regarding the aim of Hyundai to retain the market share of the previous year finds mention in the first paragraph. Statement III regarding "Hyundai Assurance" is mentioned in the second passage.
182. (b) Hyundai is optimistic of increasing their sale this year in US, "We think for..... our market share"- in the first paragraph.
183. (d) The whole passage throws light on the success story of Hyundai in the US market, despite others not performing well, so that the growth rate can be maintained.
184. (b) There is no mention of the fact that America has stopped buying cars from South Korea. In fact, Hyundai being a South Korean company, its sale has only increased in America.
185. (d) According to the passage, growth in the economy is possible if agricultural reforms are carried out and manufacturing sector is promoted, in order to support the service sector growth.
186. (b) Healthy growth in agriculture and manufacturing sectors is needed to generate the demand that will eventually sustain the service sector.
187. (d) The first three options are totally absurd in reference to the passage.
188. (a) No where in the passage has it been mentioned that Bihar has shown the maximum growth in the country. The passage only mentions that Bihar's 11% growth has received much attention.
189. (b) Statement A is explicitly written in the last sentence of the passage. Statement C can be found in the middle of the passage in the sentence "We find evidence..... does not allow instantaneous information dissemination". Regarding Reliance Power, it doesn't show the general trend, as can be seen in the second sentence of the passage.
190. (b) Option (b) which says trading volume largely depends upon past returns, can be seen in the sentence "We find evidence that in the Indian market, past returns cause trading volume, which....."
191. (b) The passage does not discuss anything about stock market losses during recession. Hence, Option (b) is correct.
192. (a) Option (a) is not inferred in the passage. In fact, the statement in Option (a) is exactly opposite to the sentence "The results of impulse.... any shock in either returns or volume does not affect the return series beyond one lag", which is the second last sentence of the passage.
193. (b) Iceland is in bad state of affairs because of the financial collapse of late 2008. It was one of the first economies to fall into the red immediately after the Lehman Brothers bankruptcy. It is not because of the creditor nations, viz., UK and Netherlands, that Iceland is in dire straits.
194. (b) According to the passage, Iceland's President, Olafur Grimsson is trying his level best to repay the loan that Iceland has taken from the creditor nations, although one quarter of the people are against it.
195. (d) No where in the passage has it been discussed that UK and Netherlands haven't agreed to sanction additional loans. In fact, the two nations are themselves cash-strapped and hurting from the aftermath of the financial crisis.
196. (a) Icelanders haven't revolted. This can be clearly understood from the second sentence of the first paragraph - "To stave off revolt and breakdown of order, the head of State technicalities."
197. (d) In this question, Statements A, C and D are correct, while Statement B is incorrect, as can be seen in the given passage. Statement B is incorrect because the demand for steel has seen an increase in the last one year.
198. (a) The slowdown in the world economy has a drastic effect on steel industry in any country, and in this case, India. Although not very explicitly mentioned in the given passage, the hint of the logic can be tracked from the last two sentences of the passage. Apart from the first option, other options are absolutely absurd.
199. (a) The whole passage talks about single point, that recession caused the demand for steel to go down. With improvement in overall economy, steel industry has also recuperated.
200. (c) Option (c) is the right answer because what's written in this option is totally opposite to what has been claimed by the last sentence of the second paragraph.