

MAT 2008 (February)

1. Which one of the following took over the angle – Dutch Steel Company Corus?
(1) Mittal-Arcelor (2) Jindal Steel
(3) Neelanchal Ispat Nigam Ltd. (4) Tata Steel
2. Which of the following public sector organisation is listed on New York Stock Exchange?
(1) SAIL (2) MNTL (3) GAIL (4) None of these
3. Who is the President of India?
(1) Jawaharlal Nehru (2) APJ Abdul Kalam (3) Ram Shankar (4) None of these
4. For International Payments the Indian currency is linked to
(1) British Sterling (2) American Dollar (3) International Oil Price (4) Gold Standard
5. Who is the Chief of Pakistan Army?
(1) General Naseem Shakeel (2) General Ashfaq Parvez Kayani
(3) General Parvez Musharraf (4) None of these
6. Which is the first Indian bank to get approval to start normal banking operation in China?
(1) Indian Bank (2) Punjab National Bank
(3) Corporation Bank (4) State Bank of India
7. Monsoon is caused by
(1) Impact of summer temperatures on the seas (2) Movement of Clouds
(3) Seasonal reversal of winds (4) Rise in temperature
8. The Indian Company that manufactures automobiles for Mitsubishi is
(1) Tata Motors (2) Bajaj Tempo (3) Mahindra (4) Hindustan Motors
9. The world's busiest port today
(1) Port of Rotterdam (2) Port of Shanghai (3) Port of Singapore (4) Port of Dubai
10. What is Phishing?
(1) A Government Plan
(2) A Stem Cell
(3) Fraudulent way of acquiring PIN and bank passwords using email
(4) None of these
11. Which of these is not a film directed by Mira Nair?
(1) Earth (2) Monsoon Wedding (3) Kamasutra (4) Salaam Bombay
12. Major oil finds are recently reported in
(1) Krishna Godavari Basin (2) Cauvery Basin
(3) Rajasthan Desert (4) Lower Assam Valley
13. Which of the following countries is the top source of FDI inflows into India at present?
(1) Singapore (2) USA (3) UK (4) Mauritius
14. Arun has 800 shares of par value Rs. 50 each and 600 debentures of par value Rs.100 each of the company. The company pays an annual dividend of 6% on the shares and interest of 12% on the debentures. The rate of return on his investment is
(1) 8% (2) 9.6% (3) 10.6% (4) 8.6%
15. A clock strikes 4 taking 9 seconds. In order to strike 12 at the same rate, the time taken is
(1) 36 seconds (2) 27 seconds (3) 30 seconds (4) 33 seconds
16. A chartered accountant applies for a job in two firms X and Y. The ability of his being selected in firm X is 0.7, and being rejected at Y is 0.5 and the probability of at least one of his applications being rejected is 0.6. What is the probability that he will be selected in one of the firms?
(1) 0.85 (2) 0.2 (3) 0.4 (4) 0.7

17. Two small circular parks of diameters 16 m, 12 m are to be replaced by a bigger circular park. What would be the radius of this new park, if the new park has to occupy the same space as the two small parks?
 (1) 15 m (2) 10 m (3) 20 m (4) 25 m
18. A conical vessel of base radius 2 cm and height 3 cm is filled with kerosene. This liquid leaks through a hole in the bottom and collects in a cylindrical jar of radius 2 cm. The kerosene level in the jar is
 (1) π cm (2) 1.5 cm (3) 1 cm (4) 3 cm
19. The angle of elevation of an aeroplane from a point on the ground is 45° . After 15 seconds flight, the elevation changes to 30° . If the aeroplane is flying at a height of 3000 m, the speed of the plane in km per hour is
 (1) 208.34 (2) 306.72 (3) 402.56 (4) 527
20. At the first stop on his route, a driver unloaded $\frac{2}{5}$ of the packages in his van. After he unloaded another three packages at his next stop, $\frac{1}{2}$ of the original number of packages remained. How many packages were in the van before the first delivery?
 (1) 25 (2) 10 (3) 30 (4) 36
21. If S is 150 percent of T, then T is what percent of $S + T$?
 (1) 40% (2) $33\frac{1}{3}\%$ (3) 75% (4) 80%
22. An investor earns 3% return on $\frac{1}{4}$ th of his capital, 5% on $\frac{2}{3}$ rd and 11% on the remainder. What is the average rate of return he earns on his total capital?
 (1) 10% (2) 5% (3) 5.5% (4) 10.5%
23. Mixture of milk and water has been kept in two separate containers. Ratio of milk to water in one of the containers is 5 : 1 and that in the other container is 7 : 2. In what ratio should be mixtures of these two containers be added together so that the quantity of milk in the new mixture may become 80%?
 (1) 3 : 2 (2) 2 : 3 (3) 4 : 5 (4) None of these
24. Rahul started a business with a capital of Rs. 8,000. After six months, Sanjay joined him with investment of some capital. If at the end of the year each of them gets equal amount as profit, how much did Sanjay invest in the business?
 (1) Rs. 17,500 (2) Rs. 18,000 (3) Rs. 16,000 (4) Rs. 16,500
25. Sita buys a fridge at $\frac{15}{16}$ of its original value and sells it for 10% more than its value. Then, gain % is
 (1) 15.55 (2) 11.67 (3) 16.67 (4) None of these

Directions for questions 26 – 30: Attempt these questions based on fuel consumption data of M/s ABC Transportation Company Limited given in the table.

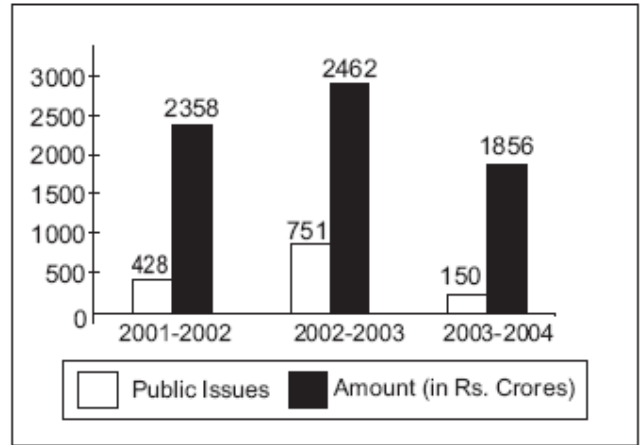
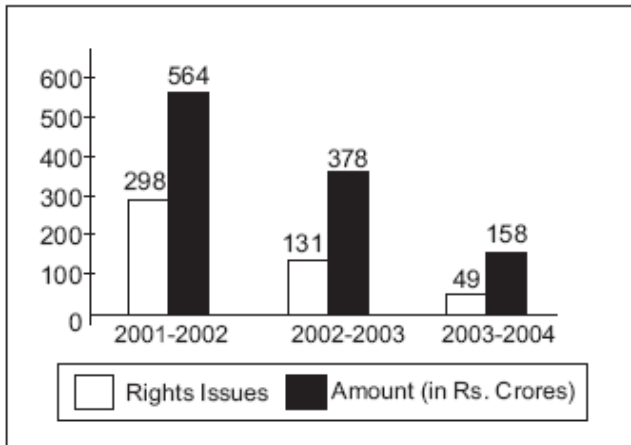
Year	Budgeted Consumption (lakh litres)	Actual to Consumption (lakh litres)	Km Run (lakh)	Fuel Expenditure (Rs. in lakh)
2001	125	112	672	504
2002	150	170	1105	901
2003	200	225	1406	1125
2004	200	195	1209	995
2005	250	253	1594	1240

Note:

- Fuel Savings = Budgeted Consumption – Actual Consumption
- Km per litre = Km Run/Actual Consumption

- Fuel Cost per Km = Fuel Expenditure/Km Run
 - Fuel Cost per litre = Fuel Expenditure/Actual Consumption
26. The percentage change in Km per litre from 2002 to 2005 was nearly
 (1) + 3% (2) - 3% (3) - 30% (4) - 0.3%
 27. In which year was the Fuel Savings in litres maximum?
 (1) 2004 (2) 2005 (3) 2001 (4) 2002
 28. The Fuel Cost per litre was maximum in the year
 (1) 2002 (2) 2005 (3) 2004 (4) 2003
 29. Which of the following has increased and decreased in alternate years?
 (1) Fuel Expenditure (2) Km per litre (3) Fuel Cost per litre (4) Actual Consumption
 30. The average Km per litre during 2001 to 2005 was
 (1) 6.00 (2) 6.50 (3) 6.10 (4) 6.25

Directions for questions 31 – 35: Attempt these questions based on the bar charts, which give the details of Rights and Public Issues Floated and Amount Raised by Indian Companies.



31. When was the proportion of rights issues to the total number of issues minimum?
 (1) 2002 – 03 (2) 2001 – 02 (3) 2003 – 04 (4) Data insufficient
32. If in 2001 – 2002, the corporate saving is $2\frac{1}{4}\%$ of the total amount raised and in 2003 – 04, the savings is $5\frac{1}{2}\%$ of the total amount raised, then the decline in the saving amount was approximately Rs. _____ crore.
 (1) 65 (2) 45 (3) 35 (4) 55
33. The percentage change in amount raised during 2002 – 03 over 2001 – 02 was
 (1) 2.4% (2) - 0.28% (3) - 2.8% (4) - 3.2%
34. If a person invested Rs. 200 crore in 2002 – 03 to obtain X number of rights issues and invested the same amount to obtain Y number of public issues during the same year, then the value of (X – Y) was nearly
 (1) 6 (2) - 4 (3) - 8 (4) 8
35. The average amount raised per issue during the given period was nearly Rs. _____ crore.
 (1) 4.6 (2) 5.8 (3) 3.2 (4) 10.4

Directions for questions 36 – 40: Study the table to answer these questions.

**World Bank Aided Development Programmes
Targets, Achievements and Investments (2001 – 2006)**

Period	Number of Families Assisted (in Lakh)		Funds (in Rs. Crores)		Credit Mobilised (in Rs. Crore)
	Target	Achievement	Allocation	Utilisation	
2001 – 02	44	46	204	220	500
2002 – 03	55	57	448	460	800
2003 – 04	59	62	424	440	850
2004 – 05	51	57	395	490	900
2005 – 06	40	41	190	350	950

Note: Investment = Funds Utilised + Credit Mobilised = Assistance Provided

36. When was the achievement closest to the target?
 (1) 2003 – 04 (2) 2002 – 03 (3) 2004 – 05 (4) 2005 – 06
37. In which year was the allocated funds per family minimum?
 (1) 2003 – 04 (2) 2001 – 02 (3) 2004 – 05 (4) 2005 – 06
38. The achievement crosses 2 crore mark in year
 (1) 2002 – 03 (2) 2001 – 02 (3) 2003 – 04 (4) 2004 – 05
39. What amount of assistance approximately did each family receive in 2004 – 05?
 (1) Rs. 2440 (2) Rs. 1220 (3) Rs. 3460 (4) Rs. 4810
40. The amount of credit mobilized constituted the maximum part of investment in the year
 (1) 2002 – 03 (2) 2001 – 02 (3) 2005 – 06 (4) 2004 – 05

Directions for questions 41 – 43: Study the information below to answer these questions.

- Seeta, Rajinder and Surinder are children of Mr. and Mrs. Aggarwal.
 - Renu, Raja and Sunil are children of Mrs. and Mr. Malhotra.
 - Sunil and Seeta are a married couple and Ashok and Sanjay are their children.
 - Geeta and Rakesh are children of Mr. and Mrs. Gupta.
 - Geeta is married to Surinder and has three children named Rita, Sonu and Raju.
41. How is Rajinder related to Ashok?
 (1) Father-in-law (2) Brother-in-law (3) Cousin (4) Maternal Uncle
42. What is Sanjay's surname?
 (1) Gupta (2) Malhotra (3) Aggarwal (4) Surinder
43. Renu is Sanjay's _____.
 (1) Sister-in-law (2) Sister (3) Cousin (4) Aunty

Directions for questions 44 – 46: Answer these questions on the basis of the information given below.

Twenty-one participants from four continents (Africa, America, Australia, and Europe) attended a United Nations conference. Each participant was an expert in one of four fields – labour, health, population studies, and refugee relocation. The following five facts about the participants are given.

- The number of labour experts in the camp was exactly half the number of experts in each of the three other categories.
- Africa did not send my labour expert. Otherwise, every continent, including Africa, sent at least one expert for each category.

- None of the continents sent more than three experts in any category.
 - If there had been one less Australia expert, then America would have had twice as many experts as each of the other continents.
 - Mike and Alfano are leading experts of population studies who attended the conference. They are from Australia.
44. Which of the following cannot be determined from the information given?
- (1) Number of health experts from Europe.
 - (2) Number of labour experts from America.
 - (3) Number of health experts from Australia.
 - (4) Number of experts in refugee relocation from Africa
45. Which of the following combinations is not possible?
- (1) 2 experts in population studies from America and 1 health expert from Africa attended the conference.
 - (2) 2 experts in population studies from America and 2 health experts from Africa attended the conference.
 - (3) 3 experts in refugee relocation from America and 1 health expert from Africa attended the conference.
 - (4) Africa and America each had 1 expert in population studies attending the conference.
46. If Ramos is the lone American expert in population studies, which of the following is not true about the numbers of experts in the conference from the four continents?
- (1) There is one expert in refugee relocation from Africa.
 - (2) There is one expert in health from Africa.
 - (3) There are two experts in health from America.
 - (4) There are three experts in refugee relocation from America.

Directions for questions 47 – 56: Answer these questions independent of each other.

47. Rahul walks 30 metres towards south then turns to his right and starts walking straight till he completes another 30 metres. Then again turning to his left he walks for 20 metres. He then turns to his left and walks for 30 metres. How far is he from his initial position?
- (1) 30 metres (2) 50 metres (3) 10 metres (4) 60 metres
48. A girl leaves from her home. She first walks 30 metres in North–west direction and then 30 metres in South–West direction. Next, she walks 30 metres in South–East direction. Finally, she turns towards her house. In which direction is she moving?
- (1) South–West (2) South–East (3) North–East (4) North–West
49. Five students participated in the scholarship examination “Sudha scored higher than Puja. Kavita scored lower than Suma but higher than Sudha. Mamta scored between Puja and Sudha.” Who scored lowest in the examination?
- (1) Puja (2) Kavita (3) Mamta (4) Sudha
50. Samant remembers that his brother’s birthday is after fifteenth but before eighteenth of February, whereas his sister remembers that her brother’s birthday is after sixteenth but before nineteenth of February. On which date of February is Samant’s brother’s birthday?
- (1) 18th (2) 16th (3) 19th (4) 17th
51. Rajesh walked 25 metres towards South. Then he turned to his left and walked 20 metres. He then turned to his left and walked 25 metres. He again turned to his right and walked 5 metres. At what distance is he from the starting point and in which direction?
- (1) 60 metres – East (2) 35 metres – East (3) 35 metres – North (4) 40 metres – East

52. Persons X, Y, Z and Q live in red, green, yellow or blue coloured houses placed in a sequence on a street. Z lives in a yellow house. The green house is adjacent to the blue house. X does not live adjacent to Z. The yellow house is in between the green and red houses. The colour of the house X lives in is
(1) green (2) blue (3) red (4) cannot be determined
53. 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
(1) 21 (2) 20 (3) 22 (4) 23
54. Five persons with names, P, M, U, T and X live separately in any one of the following: a palace, a hut, a fort, a house or a hotel. Each one likes two different colours from among the following: blue, black, red, yellow and green. U likes red and blue. T likes black. The person living in a palace does not like black or blue. P likes blue and red. M likes yellow. X lives in a hotel, M lives in a
(1) fort (2) hut (3) palace (4) house
55. There are ten animals – two each of lions, panthers, bisons, bears, and deer in a zoo. The enclosures in the zoo are named X, Y, Z, P and Q and each enclosure is allotted to one of the following attendants; Jack, Mohan, Shalini, Suman and Rita. Two animals of different species are housed in each enclosure. A lion and a deer cannot be together. A panther cannot be with either a deer or a bison. Suman attends to animals from among bison, deer and panther only. Mohan attends to a lion and a panther. Jack does not attend to deer, lion or bison. X, Y and Z are allotted to Mohan, Jack and Rita respectively. X and Q enclosures have one animal of the same species. Z and P have the same pair of animals. The animals attended by Shalini are
(1) bison and deer (2) bear and bison (3) bear and lion (4) bear and panther
56. Eighty kilograms (kg) of store material is to be transported to a location 10 km away. Any number of couriers can be used to transport the material. The material can be packed in any number of units of 10, 20 or 40 kg. Courier charges are Rs. 10 per hour. Couriers travel at the speed of 10 km/hr if they are not carrying any load, at 5 km/hr if carrying 10 kg, at 2 km/hr if carrying 20 kg and at 1 km/hr if carrying 40 kg. A courier cannot carry more than 40 kg of load. The minimum cost at which 80 kg of store material can be transported to its destination will be
(1) Rs. 160 (2) Rs. 180 (3) Rs. 140 (4) Rs. 120

Directions for questions 57 – 61: Each of these questions are followed by two arguments numbered I and II.

Decide which of the arguments is a 'strong' argument and which is a 'weak' argument. Mark answer as

- (1) if only Argument II is strong. (2) if only Argument I is strong.
(3) if either Argument I or II is strong. (4) if neither Argument I nor II is strong.

57. Should there be only one rate of interest for term deposits of varying durations in banks?

Arguments:

- I. No, people will refrain money for longer duration resulting into reduction of liquidity level of banks.
II. Yes, this will be much simpler for the common people and they may be encouraged to keep more money in banks.

58. Should all those who have come in contact with the patients' infectious respiratory disease be quarantined in their houses?

Arguments:

- I. No, nobody should be quarantined unless they are tested and found to be infected by the virus causing the disease.
- II. Yes, this is the only way to control the spread of the dreaded disease.

59. Should mutual funds be brought under strict Govt. control?

Arguments:

- I. Yes, that is one of the ways to protect the interest of the investors.
- II. No, strict Govt. controls are likely to be counter productive.

60. Should all the profit making public sector units be sold to private companies?

Arguments:

- I. Yes, this will help the government to augment its resources for implementing the development programmes.
- II. No, the private companies will not be able to run these units effectively.

61. Should the public sector undertakings be allowed to adopt hire and fire policy?

Arguments:

- I. Yes, this will help the public sector undertakings to get rid of non-performing employees and will also help to reward the performing employees.
- II. No, the management may not be able to implement the policy in an unbiased manner and the employees will suffer due to the high-handedness of the management.

Directions for questions 62 – 66: In each of these questions, a statement is followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. Mark answer as

- (1) if only Assumption II is implicit.
- (2) if only Assumption I is implicit.
- (3) if either Assumption I or II is implicit.
- (4) if neither Assumption I nor II is implicit.

62. **Statement:**

The KLM company has decided to go for tax-free and taxable bonds to raise its resources.

Assumptions:

- I. The KLM company has already explored other sources to raise money.
- II. The products of KLM Company have little competition in the market.

63. **Statement:**

It is felt that when the airline is facing stiff competition coupled with a precarious financial position, the top level posts should be kept open for outside professionals than internal candidates.

Assumption:

- I. Internal candidates aspire only getting promotions, without much contribution.
- II. Experienced professionals are more likely to handle the problems of the airline.

64. **Statement:**

Lack of stimulation in the first four-five years of life can have adverse consequences.

Assumption:

- I. A great part of the development of observed intelligence occurs in the earliest years of life.
- II. 50 percent of the measurable intelligence at the age of 17 is already predictable by the age of four.

65. **Statement:**
Take this 'oven' home and you can prepare very tasty dishes which you were unable to prepare earlier
– An advertisement of X brand oven.

Assumption:

- I. The user knows the procedure recipe of tasty dishes but does not have the proper oven to cook.
- II. Only 'X' brand oven can cook very tasty dishes.

66. **Statement:**
Who rises from the prayer a better man, his prayer is answered.

Assumptions:

- I. Prayer makes a man more human.
- II. Prayer atones all of our misdeeds.

Directions for questions 67 – 71: In each of these questions, a statement is followed by two courses of action numbered I and II. Assume everything in the statement to be true. Decide which of the suggested course(s) of action logically follow(s) for pursuing. Mark answer as

- (1) if only course of Action I follows.
- (2) if only course of Action II follows.
- (3) if neither course of Action I nor II follows.
- (4) if both courses of action I and II follow.

67. **Statement:**
The government has decided not to provide financial support to voluntary organizations from the next five year Plan and has communicated that all such organizations should raise funds to meet their financial needs.

Courses of Action

- I. Voluntary organizations should collaborate with foreign agencies.
- II. They should explore other sources of financial support.

68. **Statement:**
Exporters in the capital are alleging that commercial banks are violating a Reserve Bank of India directive to operate a post-shipment export credit denominated in foreign currency at international interest rates from January this year.

Courses of Action

- I. The officers concerned in the commercial banks are to be suspended.
- II. The RBI should be asked to stop giving such directives to commercial banks.

69. **Statement:**
The Chairman stressed the need for making the education system more flexible and regretted that the curriculum had not been revised in keeping with the pace of the changes taking place.

Courses of Action

- I. Curriculum should be reviewed and revised periodically.
- II. System of education should be made more flexible.

70. **Statement:**
The daytime temperatures in this summer have been four to five degrees Celsius above the normal temperature across the country.

Courses of Action

- I. The government machinery should be put on high alert and provided with necessary equipments to prevent any untoward incident.
- II. The government should make necessary arrangements to provide water in all the areas affected due to extreme heat waves.

71. **Statement:**

If the faculty members also join the strike, then there is going to be a serious problem.

Courses of Action

- I. The faculty members should be persuaded not to go on strike.
- ii. Those faculty members who join the strike should be suspended.

Directions for questions 72 – 76: In each of the following questions, one or more of the sentences is/are incorrect. Identify the incorrect sentence(s).

72. A. A changing perception as to India has also helped.
 B. India is no longer a backward, third world country.
 C. Helping boost the image are favorable opinions of leading international financial institutions.
 D. India will be the third biggest economy by 2050, just behind China and the US, in that order.
 (1) A and D (2) A only (3) B only (4) No error
73. A. I remember seeing a full page advertisement with a bright background colour.
 B. The only other item on the page was a very small line of type in a lighter shade of the same colour.
 C. Since I can still recall the ad, it must have made an impression.
 D. Using colour to impact your design works best when it involves the unexpected or extreme.
 (1) C only (2) B only (3) D only (4) No error
74. A. In the long history of the world, only a few generations have been granted the role of defending freedom in its hour of maximum danger.
 B. I do not believe that any of us would exchange places with any other people or any other generation.
 C. The energy, the faith, the devotion which we bring to this endeavor will light our country and all who serve it.
 D. The glow from that fire can truly light the world.
 (1) B only (2) A (3) C only (4) No error
75. A. As the growing economy makes increasing demands on infrastructure inputs, these problems could worsen in the coming year.
 B. Therefore, addressing infrastructure gaps needs to be our topmost priority next year.
 C. The second risk lies in the global macroeconomic imbalances, reflected in the twin deficits of the US and rising surpluses of Asia.
 D. The longer these imbalances have persisted, the greater has become the risk of a disruptive correction.
 (1) A only (2) B only (3) D only (4) C only
76. A. The only problem is that the wickets that are on offer for domestic cricket are hardly conducive for batsman.
 B. It is here that BCCI needs to show the same will, as they have shown in making players play domestic cricket.
 C. For years now, pitches have been prepared to suit the same the home team's strengths and that is fine so long as the pitch is not a lottery.
 D. If one goes by the scores in some of the matches, especially Delhi's games, then it is quite obvious that the pitches prepared are sub-standard and not conducive to a fair contest between bat and ball.
 (1) A only (2) B only (3) D only (4) C only

77. An Army Commander wishing to draw up his 5180 men in the form of a solid square found that he had 4 men less. If he could get four more men and form the solid square, the number of men in the front row is
- (1) 72 (2) 68 (3) 78 (4) 82
78. A tin of oil was $\frac{4}{5}$ full. When six bottles of oil were taken out and four bottles of oil were poured into it, it was $\frac{3}{4}$ full. How many bottles of oil can it contain?
- (1) 20 (2) 10 (3) 30 (4) 40

Directions for questions 79 – 83: Each of the questions below consists of a question and two statements numbered I and II given below it. Decide whether the data provided in the statements are sufficient to answer the question. Mark answer as

- (1) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
- (2) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
- (3) if the data even in both statements I and II together are not sufficient to answer the question.
- (4) if the data in both statements I and II together are necessary to answer the question.

79. What is the absolute difference between two numbers?
- I. 60% of the bigger number is equal to the smaller number.
- II. Half of the bigger number is 5 less than the smaller number.
80. What is the ratio between the present ages of father and his son?
- I. Ratio of the present ages of father 20 years before and son 10 years before was 2 : 1.
- II. Sum of the present ages of father and son is 50 years.
81. Which newspaper has the maximum circulation in Delhi?
- I. 2 lakh copies of newspaper X are sold in Delhi while the circulation of newspaper Y is estimated at 3 lakh.
- II. The circulation of newspaper Y is 55 per cent of the total circulation of newspapers
82. What is the profit per cent earned by a shopkeeper on selling the article in his shop?
- I. Labelled price of the article sold is 110% of the cost price.
- II. Cost price of the article is Rs. 1200.
83. How many hours a day must 4 pumps work to empty a conical tank in 1 day?
- I. 3 pumps working 8 hours a day can empty another tank in 2 days.
- II. The other tank has twice the floor area and one-and-a-half times the depth of the original tank.

Directions for questions 84 – 88: In these questions, two quantities are given, one in column A and one in column B. Compare the two quantities. Mark answer as

- (1) if the quantity in column B is greater than the quantity in column A.
- (2) if the quantity in column A is greater than the quantity in column B
- (3) if the quantities are equal
- (4) if the comparison cannot be made from the given information.

84.

Column A
Cube root of Three

Column B
Fourth root of Four

85.

Column A	Column B
Perimeter of a square with each side equal to 5 cm	Perimeter of a regular pentagon with each side equal to 4 cm

86.

Column A	Column B
Half of 40% of 30	$1/5^{\text{th}}$ of 50% of 60

87.

Column A	Column B
Area of square with side 1.8 m	Area of a circle with diameter 2 cm

88.

Column A	Column B
Number of ways to arrange 5 different books on a shelf	Number of minutes in two hours

Directions for questions 89 – 91: Complete the series.

89. AGMS ciou?

- (1) BHNT bhnt (2) ABCD ascd (3) BHNT djpv (4) bhnt DJPV

90. 48, 24, 72, 36, 108, ?

- (1) 115 (2) 110 (3) 121 (4) 54

91. K – 11, M – 13, P – 16, T – 20, ?

- (1) V – 22 (2) U – 21 (3) Y – 25 (4) W – 25

92. Mr. Katial buys a house for Rs. 1,00,000 and rents it. He puts 12.5% of each month's rent aside for upkeep and repairs, pays Rs. 325 per year as taxes and realizes 5.5% annually on his investment. The monthly rent is

- (1) Rs. 554.76 (2) Rs. 634.76 (3) Rs. 654.76 (4) None of these

93. A batsman has a certain average of runs for 12 innings. In the 13th inning he scores 96 runs thereby increasing his average by 5 runs. What is his average after the 13th inning?

- (1) 64 (2) 48 (3) 36 (4) 72

94. What should be subtracted from 15, 28, 20 and 38 so that the remaining numbers may be proportional?

- (1) 4 (2) 2 (3) 6 (4) None of these

95. A and B enter into a partnership with Rs. 50,000 and Rs. 60,000 respectively. C joins them after x months contributing Rs. 70,000 and B leaves x months before the end of the year. If they share the profit in the ratio of 20 : 18 : 21, then the value of x is

- (1) 3 (2) 9 (3) 6 (4) 8

96. A cash payment that will settle a bill for 250 chairs at Rs. 50 per chair less 20% and 15% with a further discount of 5% on cash payment is

- (1) Rs. 8075 (2) Rs. 7025 (3) Rs. 8500 (4) None of these

97. Eight children and 12 men complete a certain piece of work in 9 days. If each child takes twice the time taken by a man to finish the work, in how many days will 12 men finish the same work?

- (1) 15 (2) 8 (3) 9 (4) 12

98. Two pipes P and Q would fill a cistern in 24 and 32 minutes, respectively. Both pipes are kept open. When should the first pipe be turned off so that the cistern may be just filled in 16 minutes?
(1) After 10 minutes (2) After 12 minutes (3) After 14 minutes (4) None of these
99. Two trains, 130 m and 110 m long, are going in the same direction. The faster train takes one minute to pass the other completely. If they are moving in opposite directions, they pass each other completely in 3 seconds. Find the speed of each train.
(1) 38 m/sec, 36 m/sec (2) 42 m/sec, 38 m/sec (3) 36 m/sec, 42 m/sec (4) None of these
100. A man swimming in a stream which flows $1\frac{1}{2}$ km/hr finds that in a given time he can swim twice as far with the stream as he can against it. At what rate does he swim?
(1) $5\frac{1}{2}$ km/hr (2) $4\frac{1}{2}$ km/hr (3) $7\frac{1}{2}$ km/hr (4) None of these
101. A trader has 50 kg of rice, a part of which he sells at 10% profit and the rest at 5% loss. He gains 7% on the whole. How much was sold at 10% gain and how much was sold at 5% loss?
(1) 40 kg, 15 kg (2) 30 kg, 10 kg (3) 35 kg, 40 kg (4) 40 kg, 10 kg
102. If 6 years are subtracted from the present age of Randheer and the remainder is divided by 18, then the present age of his grandson Anup is obtained. If Anup is 2 years younger to Mahesh, whose age is 5 years, then what is the age of Randheer?
(1) 84 years (2) 96 years (3) 48 years (4) 60 years
103. Two friends A and B jointly lent out Rs. 81,600 at 4% per annum compound interest. After 2 years A gets the same amount as B gets after 3 years. The investment made by B was
(1) Rs. 40,000 (2) Rs. 30,000 (3) Rs. 45,000 (4) Rs. 38,000
104. Two vessels contain spirit of 0.5 and 0.75 concentrations. If two litres from the first vessel and three times litres from the second vessel are mixed, then what will be the ratio of the spirit and the water in the resultant solution?
(1) 7 : 17 (2) 13 : 7 (3) 15 : 17 (4) 17 : 15
105. To win an election, a candidate needs $\frac{3}{4}$ of the votes cast. If, after $\frac{2}{3}$ of the votes have been counted, a candidate has $\frac{5}{6}$ of what he needs, then what part of the remaining ratio does he still need?
(1) $\frac{1}{8}$ (2) $\frac{1}{10}$ (3) $\frac{1}{4}$ (4) $\frac{3}{8}$
106. Which organization is headed by Indian environmentalist R.K. Pachauri which has been awarded the Nobel Peace Prize, 2007 along with Al Gore?
(1) International Panel on Climate Change (IPCC) (2) International Pollution Control Corporation
(3) International Environmental Panel (4) International Panel on Global Warming
107. What is the name of China's first lunar orbiter launched in October 2007?
(1) Lunz'e 1 (2) Wan Hu (3) Chang'e 1 (4) Shenzhou
108. The Draft National Policy on Criminal Justice has been codified as
(1) Economic Offences code (2) Social Welfare Offence code
(3) Correctional Offences code (4) All of these
109. Reliance Industries Ltd. (RIL) has purchased GAPCO, a fuel retailer which has a strong presence in
(1) Asia (2) South Africa
(3) East and Central Africa (4) Europe
110. According to the latest report by Transparency International, which of the following countries has/have been adjudged the least-corrupt countries?
(1) Finland (2) Denmark (3) New Zealand (4) All these

111. The Right Livelihood Prize for 2007, an annual alternative to the Nobel Prize has not been awarded to
 (1) Christopher Weeramantry (2) Ibrahim Abdi
 (3) Ruth Manorama (4) Percy and Louise Schmeiser
112. As per the World's Economic Forum's Report, 2007, Gender Gap Index has been topped by
 (1) Finland (2) Norway (3) Sweden (4) New Zealand
113. As per the World Bank study, the rank of India in global trade Logistics Performance Index is
 (1) 1st (2) 2nd (3) 39th (4) 14th
114. Who has been named "Businessman of the Year for 2006" by Forbes Asia?
 (1) Mukesh Ambani (2) Nandan Nilekani (3) Vijay Mallya (4) Azim Premji
115. Which one of the following is not a constitutional body?
 (1) Union Public Service Commission (2) Election Commission
 (3) Planning Commission (4) Finance Commission
116. The International Day for Elimination of Racial Discrimination is observed on
 (1) 21st February (2) 20th February (3) 20th March (4) 21st March 26, 2008
117. Which one of the following pharmaceutical companies field writ petitions against Government of India and others, to plead against the rejection of its patent application by a Patent Office in Chennai?
 (1) Cipla (2) Aventis (3) Galxo-Smith Kline (4) Navartis AG

Directions for questions 118 – 137: Study the passages to answer the questions that follow each passage.

Passage – I

The year 2007 will go down in history as the year when a phase shift occurred in global public awareness of the climate change crisis. It will also go down as the year when the people of the world and heir future generations were shortchanged by a clique of business interests that manipulate the policies of a few powerful rich countries. The recently concluded U.N. conference at Bali was held in the backdrop of a three-part consensus report produced by more than 2,500 scientists under the auspices of the U.N. sponsored body, Intergovernmental Panel on Climate Change (IPCC), that catalogued the current and likely impact of the unmitigated release into the atmosphere of greenhouse gases, mainly due to the burning of coal and oil. It further re-asserted the widely held view that exceeding a heating up of the planet by more than 2°C from pre-industrial levels of which we have already committed to more than 1.2°C through past emissions – would be too disastrous to contemplate for life on earth. The Bali conference was held in the backdrop of latest scientific assessments which showed the IPCC estimates to be very conservative, that the current rate of world emissions was three times that of the 1990s' exceeding the IPCC's worst-case scenario, and that the Arctic ice was "screaming", disappearing a lot faster than predicted. It was held in the backdrop of the understanding that this galloping pace of anticipated warming implied that species losses would accelerate, the Amazon rainforest could disappear sooner, natural disasters would intensify faster, vector diseases would intensify faster, vector diseases would spread even more, the water crisis would worsen, food production would decline more rapidly, the sea level would rise much higher and there would be millions of deaths and cases of displacement of people as a result of all these catastrophes. There was the further backdrop that the real scientific consensus on what was required to keep the warming to about 2°C was becoming more and more visible through the fog of deliberate propoganda, hoping against hope, disbelief, avoidance of scaremongering tag and frank fudging to accommodate "political reality". It was becoming clearer and clearer that it was not 550 parts per million (ppm), nor even 450 ppm, but 400 ppm of carbon dioxide concentration in the atmosphere that should be the cap to keep the risk of exceeding 2°C warming within reasonable limits. Against this target the current concentration is 383 ppm, growing at 19 ppm a decade at present, a 25 per cent climb from the rate of increase of the last decade. There was also the assessment that we were very

close to a “tipping point”, beyond which we would lose control over a self-generating, feedback induced warming as with polar ice melt shrinking the reflective white surface, which induces even further heating up, or the warming oceans progressively losing their capacity to absorb carbon dioxide. There were also some views that we might have already triggered certain positive feedback cycles. What all this meant for Bali lose. We were standing at the brink of disaster and needed to take action on a war footing to curb the use of coal, petroleum and gas if humanity itself was to survive for some centuries, forget other species. The message was getting dinned into the policymakers of the world, and the Nobel Committee played a small role in flagging the issue through its Peace Prize award this year to the IPCC and Al Gore, the latter narrow loss of the U.S. Presidency to George W. Bush. For the delegates of all world governments at Bali, there was no lack of information from scientists on what was happening to the world at large as a result of man-made greenhouse gas accumulation in the atmosphere, on where we were heading if we went on business as usual, on what its impacts were, and on what needed to be done to avoid crossing the threshold. They also had no lack of information on the various technologies available to produce electricity and to move from place to place without burning carbon. There were also many reports available on what tools of economics would work in what manner to turn people away from a carbon-rich lifestyle. In fact, a number of civil society organizations had established paradigms and models of energy-saving lifestyle changes that individuals could be influenced to adopt with adequate awareness generation. For more than 10 days the delegates grappled with the issue and right from the beginning it was clear that his was going to be another Kyoto-type wrangle, with a little more pressure to come to terms, may be but basically establishing the ground reality that the political will to tackle the problem was weak and urgency for action was not yet felt by the policymakers. It was a Kyoto replica in another sense – the U.S. government played spoilsport, blocking specific action as much as possible and dampening any sense of urgency, the same role it played 10 years back at Kyoto in Japan to destroy the consensus built among all other countries and to reduce forcibly the emission reduction target and inject the carbon trading mechanism into the deal, converting it to mechanism into the deal, converting it to Kyotolite, as some environmentalists called it. This shameful role became even more dishonourable as the U.S. government subsequently refused to ratify the Protocol that it deliberately and systematically weakened, its delegation head Al Gore, then Vice-President of his country, having come armed with a unanimous resolution of the U.S. Senate to disregard “any international agreement that does not set emission targets for developing countries”. There was a further replica of Kyoto at Bali. The European Union, long regarded as the most environment-friendly group at these conferences, applauded and hailed the U.S. for coming on board at the last minute at Kyoto – and did the same at Bali. No matter consensus reached in both places. In the intervening period it did hardly anything to pressure the U.S. to come on board Kyoto. One can anticipate that the U.S. will play its expected role and so will the E.U. in the coming two years, the time specified at Bali for the post-Kyoto agreement. There could have been an alternative scenario at Bali. The U.S. could have changed track on its Kyoto policy as it has done on its Iraq policy, said it was listening to its people, 68 per cent of whom said in a recent Yale University and Gallup sample survey that they were for their government signing an international agreement to cut emissions by 90 per cent by 2050. If it refused to listen to its people who, in an earlier survey, considered global warming to be as much a threat as terrorism, the E.U. and other rich countries could have said that this was the time for emergency action to save the planet, there was no time for niceties. They could have sidelined the U.S. at Bali, could have concluded a much stronger and more just agreement with the developing nations and could have threatened the U.S. with sanctions unless it too, fell in line with the rest of the world. The Social Democrats in Germany have just, now suggested this as a future course of action. But none of this happened at Bali. It was really business as usual a term abhorred by climate activists campaigning to cut down drastically global emissions of greenhouse gases. The IPCC’s “business as usual” scenario is a straight path to doom. But then business-as-usual is what business wants, the powerful business class behind wants, the powerful business class behind the oil, coal, electricity and automobile industries the world over. The business class that pulls the strings in the Bush

administration and exercises influence all over Europe and over all countries of the world. The business class that contributed lavishly to get the Bush team elected to the White House, that openly claimed credit for the publicity blitz that shaped U.S. policy at Kyoto “What we are doing, and we think successfully, is buying time for our industries by holding up these talks”

118. “No matter that the US succeeded in decimating the consensus reached in both places.” Which are the places referred to?
 (1) Kyoto and Bali (2) Kyoto and Yale (3) Yale and Bali (4) None of these
119. What should be the cap of carbon dioxide concentration to keep warming within reasonable limits?
 (1) 450 ppm (2) 550 ppm (3) 400 ppm (4) 383 ppm
120. Which organization has catalogued the impact of release of greenhouse gases?
 (1) IPCC (2) Yale University (3) Gallup (4) E.U.
121. Which one of the following statements is not correct according to the passage?
 (1) At Bali, US government blocked specific action weakening any sense of urgency.
 (2) Business class behind industries like coal, electricity, oil, etc exert influence over all countries of the world.
 (3) The Nobel Committee played a big role in highlighting the climate change issues through its Peace Prize award.
 (4) US people were for the government signing an international agreement to cut emission.
122. The impact of global warming implies that
 (1) water crisis would worsen. (2) natural disasters would intensify
 (3) food production would decline. (4) All these
123. According to the passage, if the human race, leave aside other species, has to survive at least for a few more centuries,
 (1) use of coal is to be reduced. (2) use of petroleum and gas is to be checked.
 (3) renewable energy sources are to be tapped. (4) both (1) and (2)

Passage II

The link between high economic growth and job creation or poverty reduction is not a straightforward one. Though the Indian economy has been growing at nearly 6 per cent for the past two decades and at nearly 9 per cent for the past four years, the impact of this on employment and poverty has been mixed. Speaking in Oslo in October 2007, Finance Minister, P. Chidambaram said, “The average annual economic growth, which had been constant and tardy at 3.5 per cent during the first thirty years of Independence, increased to 5.7 per cent during the 1990s and, since 2003 – 04 the average rate, has increased further to 8.6 per cent. This growth has not been jobless growth. During this period, the rate of growth of employment was 2.9 per cent per year. The proportion of people living below the poverty line in India has declined from 51.3 per cent in 2004 – 05. But in absolute terms they still number around 250 million.” If that sounds impressive, there is more to come. Though growth during 2006 – 07 touched a high of 9.4 per cent, the consensus among leading national and international institutions is that it will slow down to between 8.5 and 9.2 per cent in 2007 – 08. The outlook on poverty is not too bright either. The report of the Steering Committee on rapid poverty reduction and local area development, prepared for the Planning Commission for the Eleventh Five Year Plan (2007 – 2012) maintains, that while poverty fell from 54.8 per cent of the population in 1973 to 27.5 per cent in 2004 based on food consumption, “Income poverty in the country has declined over three decades by less than one million a year, and it will take at least 300 years at this rate to eliminate poverty from India”. And adds, “for growth to be pro-poor, it will have to benefit the poor disproportionately, only then can the numbers of the poor decline.” This poverty line was determined on the basis of the level of per capita expenditure that could meet a calorie norm of 2400 per person per day for rural areas and 2100 per person per day for urban areas on an average,

for the country as a whole. The poverty line for 2004 – 05 is Rs. 356 per person per month for rural and Rs. 539 per person per month for urban areas. In a recent analysis, Persistence of Rural Poverty in India, the National Council for Applied Economic Research (NCAER) points out that, "All the economic growth that has taken place during the period of economic reforms has not improved the lot of the 'lower income' households." There is little agreement on the policy measures that can do this. The World Bank believes that the best way of eliminating poverty is by concentrating on agriculture. In its World Development Report 2008: Agriculture for Development, the bank maintains: "Cross-country econometric estimates show that overall GDP growth originating in agriculture is, on average, at least twice as effective in benefiting the poorest half of a country's population as growth generated in nonagricultural sector." This view is echoed by A.K. Bandyopadhyay, Chief General Manager of NABARD. "Because of the many restrictions in the agricultural sector, yield levels have remained stagnant in recent years," he says. "If reforms in marketing of produce are taken care of, an agricultural growth of over 4 per cent is possible," he adds. Not everyone focuses on agriculture. For Subir Gokarn, chief economist, Asia Pacific, for Standard and Poor's, greater employment in manufacturing is the key to reducing poverty. "Manufacturing was a key player in Southeast Asia and China for creating low skill jobs such as garments, leather and electronics," says Gokarn. "We came into the international market when services were going up. But we can't run on one engine alone and need manufacturing." A study done by the rating agency Crisil for the National Association for Software and Service Companies (NASSCOM) earlier and this year had revealed, "While the IT-ITeS sector provides direct employment to 1.3 million people, it creates additional employment for 5.2 million people. Among the various consumption categories, spending on housing/construction, food items, clothing, outdoor eating/holidays induce maximum employment". Gokarn says that one reason that the IT-ITeS sector was able to take off was the flexible labour laws that allowed firms to lay off people when there was a slump. "If this flexibility was not there then may IT firms would have shut down after the Y2K boom in the late 90s. Flexibility was the key to the survival of the service sector," The says, An unusual trend is that many of the employment opportunities are not through jobs but by self-employment. Economics C.P. Chandrasekhar and Jayati Ghosh, maintain in a recent paper, "Around half of the work force in India currently does not work for a direct employer. This is true not only in agriculture, but increasingly in a wide range of non-agricultural activities. The real expansion in employment has come in the form of self-employment, which now accounts for around half of the work force in India." They also argue, "This makes the issue of remuneration in self-employment a particularly important one". The latest NSS report confirms that just under half of all self-employed workers do not find their work to be remunerative. While many new service opportunities are opening in area like health care, education, media and entertainment, and retail, manufacturing would still need to remain the main avenue for the transition from agriculture. Most of the larger players are downsizing their work force and the only way manufacturing can generate more jobs is for new enterprises and downstream units to be set up. "For this there are three critical factors," says Gokarn. "Firstly labour laws have to be made more flexible, you have to have the infrastructure of utilities and connectivity for new enterprises to set up industry, and you have to provide vocational training since the universities the not doing so." This was what companies like NIIT and Aptech were providing for the IT sector and many smaller enterprises are now doing for other sectors.

124. According to the World Bank, poverty can be best eliminated through
- | | |
|---------------------------|---------------------|
| (1) manufacturing sector. | (2) IT-ITeS sector. |
| (3) agricultural growth. | (4) GDP growth. |
125. As per the chief economist of Standard and Poor's _____ would be the main avenue for transition from agriculture.
- | | |
|---------------|-------------------|
| (1) education | (2) health care |
| (3) retail | (4) manufacturing |

126. Which is/are the critical factor(s) for manufacturing segments to grow?

- | | |
|-------------------------|--------------------------|
| (1) Vocational training | (2) Flexible labour laws |
| (3) Infrastructure | (4) All these |

Passage – III

Not even a three-day brainstorming session among top psychologists at the Chinese University could unravel one of the world's greatest puzzles – how the Chinese mind ticks. Michael Bond had reason to pace the pavement of the Chinese University campus last week. The psychologist who coordinated and moderated a three-day seminar in Chinese psychology had most of the participants coming a long way to knock heads. "If a bomb hits this building," muttered Bond, half-seriously, "it would wipe out the whole discipline." But the only thing that went off in the Cho Yiu Conference Hall of Chinese University was the picking of brains, the pouring out of brains and a refrain from an on-going mantra: "more work needs to be done" or "we don't know". Each of the 36 participants was allowed 30 minutes plus use of an over-head projector to condense years of research into data and theories. Their content spilled over from 20 areas of Chinese behaviour, including reading, learning styles, psychopathology, social interaction, personality and modernization. An over-riding question for observers, however, was why, in this group of 21 Chinese and 15 non-Chinese, weren't there more professionals from mainland China presenting research on the indigenous people? Michael Philips, a psychiatrist who works in Hubei Province, explained: "The Cultural Revolution silenced and froze the research," said the Canadian-born doctor who has lived and worked in China for more than 10 years. "And 12 years later, research is under way but it is too early to have anything yet. Besides, most of the models being used are from the West anyway." In such a specialized field, how can non-Chinese academics do research without possessing fluency in Chinese? Those who cannot read, write or speak the language usually team up with Chinese colleagues. "In 10 years, we won't be able to do this. It's a money thing," said William Gabrenya, of Florida Institute of Technology, who described himself as an illiterate gweilo who lacks fluency in Chinese. He said that 93 per cent of the non-Chinese authors in his field cannot read Chinese. Dr. Gabrenya raised questions such as why is research dependent on university students, why is research done on Chinese people in coastal cities (Singapore, Taiwan, Shanghai and Hong Kong) but not inland? "Chinese psychology is too Confucian, too neat. He's been dead a long time. How about the guy on a motorcycle in Taipei?" Dr. Gabrenya said, urging that research have a more contemporary outlook. The academics came from Israel, Sweden, Taiwan, Singapore, United States, British Columbia and, of course, Hong Kong. Many of the visual aids they used by way of illustration contained eye-squinting type and cobweb-like graphs. One speaker, a sociologist from Illinois, even warned her colleagues that she would not give anyone enough time to digest the long, skinny columns of numbers. Is Chinese intelligence different from Western? For half of the audience who are illiterate in Chinese, Professor Jimmy Chan of HKU examined each of the Chinese characters for "intelligence". Phrases such as "a mind as fast as an arrow" and connections between strokes for sun and the moon were made. After his 25 minute speech, Chan and the group lamented that using Western tests are the only measure available to psychologists, who are starving for indigenous studies of Chinese by Chinese. How do Chinese children learn? David Kember of Hong Kong Polytechnic University zeroed in on deep learning versus surface. Deep is when the student is sincerely interested for his own reasons. Surface is memorizing and spitting out facts. It doesn't nurture any deep understanding. If the language of instruction happens to be the children's second language, students in Hong Kong have all sorts of challenges with English-speaking teachers from Australia, Britain and America with accents and colloquialisms. Do Westerners have more self-esteem than Chinese? Dr. Leung Kwok, chairman of the psychology department of Chinese University, points his finger at belief systems: the collectivist mind-set often stereotypes Chinese unfairly. The philosophy of "yuen" (a concept used to explain good and bad events which are pre-determined and out of the individual's control) does not foster a positive self-concept. Neither

do collectivist beliefs, such as sacrifice for the group, compromise and importance of using connections. "If a Chinese loses or fails, he has a stronger sense of responsibility. He tends to blame it on himself. A non-Chinese from the West may blame it on forces outside himself," Dr. Leung said. By the end of the three-day session, there were as many questions raised as answered. It was agreed there was room for further research. To the layman, so much of the discussion was foreign and riddled with jargon and on-going references to studies and researchers.

127. It can be inferred from the passage that
- (1) the cultural revolution was a productive period for Chinese psychology.
 - (2) the cultural revolution was a dangerous period for Chinese psychology.
 - (3) the cultural revolution was an unproductive period for Chinese psychology.
 - (4) the cultural revolution was a new beginning for Chinese psychology.
128. According to the passage, William Gabrenya refers to himself as an illiterate gweilo'. This suggests that
- (1) he feels defensive about not speaking and reading Chinese.
 - (2) he feels secure in his illiteracy
 - (3) he is representative of other westerners active in this field.
 - (4) he can operate perfectly well with learning Chinese
129. According to the passage, which of the following is not true?
- (1) Chinese characters are very difficult for westerners to master.
 - (2) It is difficult to come to a conclusion about western and Chinese intelligence.
 - (3) It is difficult to measure Chinese intelligence with western tests.
 - (4) More tests are required that are conducted by the Chinese for the Chinese.

Passage – IV

Is there a plant that eats animals? And if I were to eat that plant, will I become a non-vegetarian, albeit once removed? After all, such a plant is technically a non-vegetarian! The question is not just coffee-table chatter. There are insect eating plants in nature. The Venus fly trap is an often-quoted example. Now comes the startling information about a member of the pitcher plant family, which has a particular preference for termites, and eats thousands of them at one go. Drs. Marlis and Dennis Merbach and their associates from Germany report on such a plant in the 3rd January issue of Nature. Our general opinion about plants is that they are truly ascetic, demanding little from other life forms. Much of what they need comes from whatever there is in the ground below, sunlight, some water and air. They make carbohydrates out of this Spartan set of ingredients and store them in their bodies. Animals like us pluck these and feed ourselves. Many of us humans pride ourselves by declaring that we eat nothing but plants, and that we do not eat meat since that amounts to harming animals. The truth is, plants are life forms too; furthermore, such interdependence and "big fish eat small fish" is an inescapable part of existence. Wanton hurting of other life forms is what we should not be practicing. The relation between insects and plants has always been intimate and mutually beneficial. Many plants has always been intimate and mutually beneficial. Many plants need insects such as bees to help in propagation. For this purpose, they have put out elaborate structures in their flowers, which entice the bee. The colour attracts the insect while the nectar offers a meal. For its part, the insect carries the pollen across to another plant, helping the latter to propagate through such dispersal. In many instances, this mutualism has become so one-to-one as to be finicky or specific. For example, it is a particular legume plant alone that the insect called psyllid (or the jumping plant ice) will go to and none other an example of "made for each other". It is all very well, as long as it is the flower and the nectar that the insect is interested in. But if the insect were to start eating any other part of the plant, say the leaf or the seed, it has had it! The plant puts up a strong reaction. Its defence or self-protection can be pretty offensive. The plant releases chemicals that can stun or even kill the insect. The neem tree is an example. It synthesizes and stores a chemical called azadirachtin.

When the insect takes a bite at the plant, the released chemical kills all further desire in the insect to take any more bites. As a result, the insect dies a slow death of starvation. Azadirachtin is therefore called an insect antifeedant. Other plants use other strategies aimed at the same defensive purpose. For example, why are all fruits two-faced? The pulp in them is entirely tasty and nutritious. But the kernel and seed are at best indigestible (they actually can give you a stomach upset), and at worst poisonous (recall the desperate poor tribals of Orissa who suffered eating mango kernels). The pulp is the enticement, the come-hither. The seed should not be destroyed but simply dispersed, so that the next generation plant can grow. We know that all plants are not passive bystanders in the theatre of life. Several of them are activists that seek out their food and nutrition beyond air, water, soil and sunlight. There is a whole bunch of tropical plants that are carnivorous. Yes, they gobble up insects for food! The Venus fly trap mentioned above is the famous one. Its leaf has two lobes, edged with interlocking "teeth". On the surface, they have many trigger hairs. When a hapless insect were do disturb these hairs, the leaf snaps shut. Upon this, the plant secretes some digestive juice into the enclosure, which dissolves much of the insect. The food so mashed up into a puree or soup is absorbed by the plant. The chitinous outer layer of the insect is all that is left, which is discarded by later. Here is a twist—the leaf of the plant holds its stomach! What Dr. Merbach and coworkers found in the Southeast Asian country Brunei was an even more striking example of a non-veg plant. Called "Monkey's Rice Port" in West Australia, it is technically known as *Nepenthes albomarginata*. The family *Nepenthes* has many subspecies. The name is Greek in origin and means banisher of sorrow. One account has it that the plant was used by the ancient Greeks to banish sorrow and induce restful sleep. Obviously, it's nectar or some other component has a sedative influence. (Parenthetically, Dr. Dennis Merbach writes to me that he doubts this since not even Alexander the Great came far enough east to find this plant). The genus *Nepenthes* is found in Southeast Asia, Seychelles and Madagascar, and Australia, but *N. albomarginata* is abundant in Peninsular Malaysia, Sumatra, Borneo and Brunei. The German work was done in Brunei. *Albomarginata* literally means white border, and is so named because the pitcher that it presents at its leaf tips is rimmed with white hair-like protrusions. It is a slender, heat-loving plant that has attractive green-red pitchers rimmed white, and does very well in a stove house or heated frames. *N. albomarginata* is quite different from its cousins of the pitcher plant genus *Nepenthes*. Others are not choosy about their prey. They catch any insect that is careless enough to step on their slippery, toothy appendage. Monkey's Rice Pot, or *N. albomarginata* is picky – it loves to eat termites! In order to do so, it presents its pitcher to the prey, luring them with its colour and distinctive smell. The white hairs that fringe the rim of the pitcher are edible. Termites seem to love the hair and come to it in hordes. The scientists usually found not one or ten, but thousands of termites trapped in a single pitcher! All the termites they found in one pitcher belonged to the same species and were in the same state of decomposition. This led the researchers to conclude that a whole battalion was caught over a short period of time. The termites caught and gobbled up were largely from no more than three genera, with one particular genus called *Hospitalitermes* predominating. It thus seems that these fellows are picky about *N. albomarginata*, and the latter returns the compliment. In fact, the plant pretty much starves when termites are not around. Over the six-month-lifespan of the pitcher, it gets by with a few dozen ants, beetles or flies (while neighbouring pitcher plants of other provenance, not being so picky, get along much better). For its part, the termites genus mentioned above too gets by usually with live fungi and algae, but upon sensing the plant, it forages in massive columns, and meets its death by the thousands at the teeth of the pitcher plant. Extraordinary, till death do them apart! It is the white hairs that the termites go for. Pitchers with no hair are ignored. When the researchers placed near a termite marching column, both pitchers with hair and pitchers shaven off, the lead termite sensed the white hair, went back and called his mates for the forage. They came in numbers, started gobbling up the edible hairs and making food pellets out of them to carry home. In the process, they fell into the pitcher and could not escape. The fall-in rate was one every three seconds (could be even faster with a bigger marching band). After an hour, when all the hairs were gone, the pitcher was no longer of any interest to the termites. What is it in the hairs that attract the termite is not clear yet. It could be

some volatile molecule, but the researchers could not detect any smell in their study. As of now, it appears that contact happens by chance. To date, *N. albomarginata* appears to be the only one known plant that offers up its own tissue as bait, and the only one too that specializes on a single prey. Reading the article, it occurred to me that here is a clean and green way to rid your house of termites plant a hedge of *N. albomarginata* around your house, and it will do the rest. Alas, when I raised this point, Dr. Merbach disappointed me with his e mail message, stating that this group of termites does not feed on wood, since they feed over ground. The wood enter termites feed underground, while the plant presents its pitchers above. There goes another of my brilliant solutions! I wonder whether *N. albomarginata* is seen in India, since there are other members of *Nepenthes* that grow in our subcontinent. It will also be interesting to check whether some of these are pest-gobblers. One plant, called *N. Khasiana*, is found in the Khasi hills of Assam, but its termite-preference has not been tested so far, to the best of my knowledge. This pitcher plant is an undemanding highland species that grows slowly to a height of about two feet. It is able to tolerate low humidity and temperature and thus, should be cultivable in other chosen areas of India. And it better be soon, since this plant is already in the endangered list because of encroachment by farmers who have cleared up land in that area for agriculture.

130. What of the following is facing the threat of extinction?
- | | |
|------------------------|-----------------------------|
| (1) Azadirachtin | (2) <i>N. albomarginata</i> |
| (3) <i>N. Khasiana</i> | (4) <i>Hospitalitermes</i> |
131. According to the passage, Azadirachtin
- | | |
|--------------------------|---|
| (1) acts as a poison. | (2) kills the insect. |
| (3) acts as a repellent. | (4) has the effect of starving the insect to death. |
132. It can be inferred from the passage that
- | | |
|---|--|
| (1) tropical plants are carnivorous. | (2) tropical plants are omnivorous. |
| (3) tropical plants depend upon insects for food. | (4) some tropical plants absorb the insect soup. |
133. According to the passage, *Hospitalitermes*
- | |
|--|
| (1) is the main food of <i>N. albomarginata</i> . |
| (2) is a termite genus. |
| (3) loves to eat the white hairs that fringe the rim of the pitcher. |
| (4) All these |

Passage – V

Many scientists rely on elaborately complex and costly equipment to probe the mysteries confronting humankind. Not Melissa Hines, a behavioural scientist who is hoping to solve one of life's oldest riddles with a toy box full of police cars, jigsaw puzzles and Barbie dolls. For the past two years, Hines and her colleagues have tried to determine the origins of gender differences by capturing on videotape the squeals of delight, furrows of concentration and myriad decisions that children from 5 to 8 make while playing. Although both sexes play with all the toys available in Hines laboratory at the University of California, the experiments confirmed what parents and more than a few aunts, uncles and nursery school teachers already know. As a group, the boys favour sports cars and fire trucks, while the girls are drawn more often, to dolls and kitchen toys. But one batch of girls defies expectation and consistently prefers boy toys. These youngsters have a rare genetic abnormality that caused them to produce higher levels of testosterone, among other hormones, during their embryonic development. On the average, they play with the same toys as boys, in the same ways and just as often. Could it be that the high level of testosterone present in their bodies before birth has left a permanent imprint on their brains, affecting their later behaviour? Or did their parents knowing of their disorder, somehow subtly influence their choices? If the first explanation is true and biology determines the choice, Hines wonders, "Why would you evolve to want to play with a truck?" Not so long ago, any career-

minded researcher would have hesitated to ask such a question. During the feminist revolution of the 1970s, talk of inborn differences in the behaviour of men and women was distinctly unfashionable, even taboo. Men dominated fields like architecture and engineering, it was argued, because of social, not hormonal, pressures. Women had the vast majority of society's child rearing because few other options were available to them. Once sexism was abolished, so the argument ran, the world would become a perfectly equitable, androgynous place, aside from a few anatomical details. But biology has a funny way of confounding expectations. Rather than disappear, the evidence for innate sexual differences only began to mount. In medicine, researchers documented about heart disease; what it does to women and that women have a more moderate physiological response to stress. Researchers found subtle neurological differences between the sexes, both in the brain's structure and in its functioning. In addition, another generation of parents' best efforts to give baseballs to their daughters and sewing kits to their sons, girls still flocked to dollhouses while boys clambered into tree forts. Perhaps nature is more important than nurture after all. Even professional skeptics have been converted. "When I was younger, I believed that 100% of sex differences were due to the environment," says Jerre Levy, professor of psychology at the University of Chicago. Her own toddler, toppled that utopian notion. "My daughter was 15 months old, and I had just dressed her in her teeny little nightie. Some guest arrived, and she came into the room, knowing full well that she looked adorable. She came in with this saucy little walk, cocking her head, blinking her eyes, especially at the men. You never saw much flirtation in your life." Now that it is OK to admit the possibility, the search for sexual differences has expanded into nearly every branch of the life science. Anthropologists have debunked Margaret Mead's work on the extreme variability of gender roles in New Guinea. Psychologists are untangling the complex interplay between hormones and aggression. But the most provocative, if as yet inconclusive, discoveries of all stem from the pioneering exploration of a tiny 1.4 kg universe: the human brain. In fact, some researchers predict that the confirmation of innate differences in behaviour could lead to an unprecedented understanding of the mind. Some of the findings seem merely curious. For example, more men than women are left-handed, reflecting the dominance of more women listen equally with both ears while men favour the right one. Other revelations are bound to provoke more controversies. Psychology tests, for instance, consistently support the notion that men and women perceive the world in subtly different ways. Males excel at rotating three-dimensional objects in their heads and females are better at reading emotions of people in photographs. A growing number of scientists believe the discrepancies reflect functional differences in the brains of men and women. If true, then some misunderstanding between the sexes may have more to do with crossed wiring than crossed tempers. Most of the gender differences that have been uncovered so far are statistically speaking, quite small. "Even the largest differences in cognitive function are not as large as the differences in male and female height," Hines notes. "You still see a lot of overlap." Otherwise, women could never read maps and men would always be left handed. That kind of flexibility within the sexes reveals just how complex a puzzle from biology, sociology and culture. Ironically, researchers are not entirely sure how or even why humans produce sexes in the first place. Why not just one – or even three – as in some species? What is clear is that the two sexes originate with distinct chromosomes. Women bear a double dose of the large X chromosome, while men usually possess a single X and a short, stumpy Y chromosome. In 1990s, British scientists reported they had identified a single gene on the Y chromosome that determines maleness. This master gene turns on a host of other genes to the complex task of turning of fetus into a boy. Without such a signal, all human embryos would develop into girls. "I have all the genes for being male except this one, and my husband has all the genes for being female," marvels evolutionary psychologist Leda Cosmides, of the University of California at Santa Barbara. "The only difference is in which genes got turned on." Yet, even this snippet of DNA is not enough to ensure a masculine result. An elevated level of the hormone testosterone is also required during the pregnancy. Where does it come from? The fetuses' own undecided testes. In those rare cases in which the tiny body does not respond to the hormone, a genetically male foetus develops sex organs that look like a clitoris and vagina rather than a penis. Such people look and act female. The influence

of the sex hormones extends into the nervous system. Both males and females produce androgens, such as testosterone, and estrogens, although in different amounts. Men and women who make no testosterone generally lack a libido. Researchers suspect that an excess of testosterone before birth enables the right hemisphere to dominate the brain, resulting in left-handedness. Since testosterone levels are higher in boys than in girls, that would explain why more boys are left-handed. Subtle sex-linked preferences have been detected as early as 52 hours after birth. In studies of 72 new borns, University of Chicago psychologist Martha McClintock and her students found that a toe-fanning reflex was stronger in the left foot for 60% of the males, while all the females favoured their right. However, apart from such reflexes in the hands, legs and feet, the team could find no other differences in the babies' responses. One obvious place to look for gender differences is in the hypothalamus, a lusty little organ perched over the brain stem that, when sufficiently provoked, consumes a person with rage, thirst, hunger or desire in animals, a sexual function and is some what larger in males than in females. But its size need not remain constant. Studies of tropical fish by Stanford University neurobiologist Russell Fernald reveal that certain cells in this tiny region of the brain swell markedly in an individual male whenever he comes to dominate a school. Unfortunately for the piscine pasha, the cells will also shrink if he loses control of his harem to another male. Many researchers suspect that, in humans too, sexual preferences are controlled by the hypothalamus. Based on a study of 41 autopsied brains, Simon Levay of the Salk Institute for Biological Studies in San Diego announced last summer that he had found a region in the hypothalamus that was on average, twice as large in heterosexual men. Levay's findings support the idea that varying hormone levels before birth may immutably stamp the developing brain in one erotic direction or another. These prenatal fluctuations may also steer boys towards more rambunctious behaviour than girls. June Reinisch, director of the Kinsey Institute for Researches in Sex, Gender and Reproduction at Indiana University, in a pioneering study of eight pairs of brothers and 17 pairs of sisters aged 6 to 18, uncovered a complex interplay between hormones and aggression. As a group, the young males gave more belligerent answers than did the females on a multiple choice test in which they had to imagine their response to stressful situations. But siblings who had been exposed in-utero to synthetic anti-miscarriage hormones that mimic testosterone were the most combative of all. The affected boys proved significantly more aggressive than their unaffected brothers, and the drug-exposed girls were much contentious than their unexposed sisters. Reinisch could not determine, however, whether this childhood aggression would translate into greater ambition or competitiveness in the adult world.

134. According to the passage, which of the following statements is correct?
- (1) Hines work conforms that boys favour sports cars and fire trucks, while the girls are drawn more often to dolls and kitchen toys.
 - (2) Levy is sure that there are biologically based differences in our behaviour.
 - (3) Levy is correct that 100% sex differences were only due to the environment.
 - (4) Both (1) and (2)
135. During the feminist revolution of the 1970s,
- (1) men dominated fields like architecture and engineering.
 - (2) women had the vast majority in society's child rearing field.
 - (3) Both (1) and (2)
 - (4) None of these
136. Which of the following statements, according to the passage, is incorrect?
- (1) Males excel at rotating three-dimensional objects in their heads.
 - (2) Females prove better at reading emotions of people in photographs.
 - (3) More men, than women, are left-handed, which shows the dominance
 - (4) None of these

137. According to the researchers, as given in the passage, more boys are left-handed because
- (1) testosterone levels are higher in boys than in girls.
 - (2) an excess of testosterone before birth enabled the right hemisphere to dominate the brain, resulting in left handedness.
 - (3) Both (1) and (2)
 - (4) None of these

Directions for questions 138 – 140: Read the following information to answer these questions.

To apply for the scholarship, a student must see the Principal, fill out an application form and obtain an approval form either from his Head of Deptt. (HOD) or Chief Accounts Officer (CAO).

- Student must see Principal before filling out form in order to make sure it is filled out correctly.
- The Principal has office hours for students only on Thursday and Friday mornings, and Monday and Tuesday afternoons.
- The Scholarship office, where the forms have to be deposited, is open only on Monday and Tuesday mornings, Wednesday afternoons, and Friday mornings.
- HOD is in her office only on Monday and Tuesday mornings.
- CAO is in his office only on Tuesday and Friday mornings.

138. A student has already seen the Principal and wishes to complete the rest of the application process in one day. If he must obtain his approval from HOD, when should he come to the college?
- (1) Tuesday morning only
 - (2) Monday morning only
 - (3) Friday morning only
 - (4) Either Monday or Tuesday morning
139. If a student completed her application process in one visit, which of the following must be false?
- I. She got her case approved by CAO.
 - II. She got her case approved by HOD.
 - III. She completed everything in the afternoon.
- (1) II only
 - (2) I only
 - (3) III only
 - (4) II and III only
140. If a student wanting to apply for scholarship has classes only on Tuesday and Thursday, and doesn't want to make an extra trip to the college, which of the following is true?
- I. The case approval must be obtained from HOD.
 - II. The case approval must be obtained from CAO.
 - III. The entire application process can be completed in one day.
 - IV. The entire application process can be completed within the same week in the college.
- (1) II and III only
 - (2) I and II only
 - (3) I, II and III only
 - (4) None of these

Directions for questions 141 – 143: Study the information below to answer these questions.

- Seven types of paints A, B, C, D, E, F and G of different colours red, green, yellow, black, blue, white and orange are filled in different tins P, Q, R, S, T, U and V.
- The order of the types of paints, colours and the tins is not necessarily in the same order.
- Paint B is not kept in tins Q or R and is white in colour.
- Paint D is kept in tin V and is not blue or red.
- F is kept in tin P and is green in colour.
- Paints C and E are kept in tins T and U respectively and are black and yellow in colour respectively.
- G is not blue in colour.
- Red paint is not kept in tin Q.

141. Which of the following paints is orange in colour?
 (1) C (2) A (3) D (4) G
142. Paint B is kept in which tin?
 (1) S (2) T (3) U (4) Q
143. Which tin contains blue paint?
 (1) R (2) P (3) S (4) None of these

Directions for questions 144 – 148: Choose the option that fills the blanks in each sentence.

144. In the absence of native predators to stop the spread of their population, the imported goats _____ to such an inordinate degree that they over-grazed the countryside and _____ the native vegetation.
 (1) suffered, abandoned (2) propagated, cultivated (3) thrived, threatened (4) dwindled, eliminated
145. Carried away by the _____ effects of the experimental medication, the patient _____ his desire to continue as a subject for as long as he could.
 (1) noxious, proclaimed (2) supplementary, announced
 (3) frantic, repeated (4) salutary, reiterated
146. Just as a highway automobile accident leaves lasting marks of spilled coolant, _____ and oil, the smashing together of gigantic land masses releases and redirects fluids that flow, heat _____ and deposit, having an enduring record of their presence.
 (1) fuel, evaporate (2) petrol, disappear (3) paint, mark (4) anti-freeze, drip
147. The young boy's _____ attempts to explain to this girlfriend why he had failed to show up for their movie date did little to ease her _____ feelings.
 (1) veracious, vacuous (2) impassioned, disconsolate
 (3) unbelievable, gluttonous (4) chronic, vicarious
148. A few decades ago, _____ about gender roles made it somewhat difficult for a woman to study veterinary science, but today, female veterinarians are quite _____.
 (1) preconceptions, prevalent (2) diatribes, affluent
 (3) mindsets, poor (4) lectures, negligent

Directions for questions 149 – 153: Answer these questions independent of each other.

149. The argument for liberalization which answers the worries of the Left parties about the possible trade deficits created by the opening up of the Indian economy goes thus: many trading countries, the trade between two specific countries need to be balanced. The differing demands of goods and services and the differing productive capabilities of the same among different countries will cause a country like India to have trade deficits with some countries and surpluses with other countries. On the whole, the trade deficits and surpluses will balance out in order to give a trade balance'.
 Which of the following conclusions best summarises the argument presented in the passage above?
 (1) India's trade deficits and surpluses with other countries always balance out.
 (2) Left parties need not worry about trade deficits in India since its trade will always be in balance even though it runs a deficit with a single country.
 (3) The Left parties in India should not be concerned about India's trade deficits with specific countries because they will balance out in the long run.
 (4) None of these

150. Inflation can only be fundamentally caused by two factors – supply side factors and demand side factors. These factors are either reductions in the supply of goods and services or increases in demand due to either the increased availability of money or the reallocation of demand. Unless other compensating changes also occur, inflation is bound to result if either of these occurs. In economics prior to the introduction of banks (a pre-banking economy) the quantity of money available, and hence, the level of demand, was equivalent to the quantity of gold available.
- If the statements above are true, then it is also true that in a pre-banking economy,
- (1) If other factors in the economy are unchanged, increasing the quantity of gold available would lead to inflation.
 - (2) any inflation would be the result of reductions in the supply of goods and services.
 - (3) if there is a reduction in the quantity of gold available, then, other things being equal, inflation would result.
 - (4) whatever changes in demand occur, there would be compensating changes in the supply of goods and services.
151. The cost of housing in many urban parts of India has become so excessive that many young couples, with above-average salaries, can only afford small apartments. EMI and rent commitments are so huge that they cannot consider the possibility of starting a family since a new baby would probably mean either the mother or father giving up a well-paid position – something they can ill afford. The lack of or great cost of child care facilities further precludes the return of both parents to work.
- Which of the following adjustments could practically be made to the situation described above which would allow young couples to improve their housing prospects?
- (1) Encourage couples to have one child only
 - (2) Encourage couples to remain childless
 - (3) Encourage young couples to move to cheaper areas for living
 - (4) None of these is likely to have an impact on the current situation
152. In a famous experiment at the IISC campus, when a cat smelled milk, it salivated. In the experiment, a bell was rung whenever food was placed near the cat. After a number of trials, only the bell was rung, whereupon the cat would salivate even though no food was present. Such behaviour has been observed in other animals such as dogs, monkeys, etc. and is a vital input for training domesticated animals.
- Which of the following conclusions may be drawn from the above experiment?
- (1) The ringing of a bell was associated with food in the mind of the cat.
 - (2) Cats and other animals can be easily tricked.
 - (3) A conclusion cannot be reached on the basis of one experiment.
 - (4) Two stimuli are stronger than one.
153. Chewing tobacco has many benefits. However, the primary benefits occur in the area of mental health. The habit originates in a search for contentment. The life expectancy of our people has increased greatly in recent years; it is possible that the relaxation and contentment and enjoyment produced by tobacco chewing has lengthened many lives. Hence, chewing tobacco is beneficial.
- Which of the following, if true, would weaken the above conclusion?
- (1) The evidence cited in the statement covers only one example of the effects of tobacco chewing.
 - (2) The government earns millions of rupees from the sales of chewing tobacco.
 - (3) There is as yet no statistical evidence to prove a link between chewing and longevity.
 - (4) None of these

Directions for questions 154 – 158: Each question has a group of sentences marked A, B, C, D and E. Arrange these to form a logical sequence.

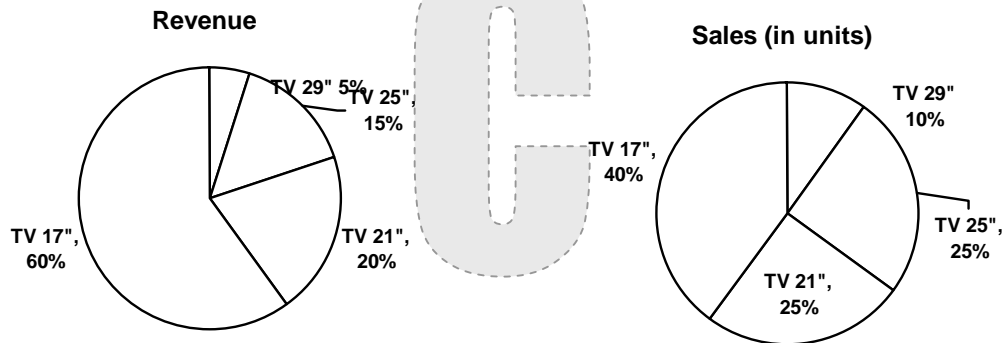
154. A. It will take extraordinary political commitment and liberal public funding during the 11th plan for affordable housing to become a credible goal.
 B. The National Urban Housing and Habitat Policy of the United Progressive Alliance Government seeks to make access to housing, long acknowledged as a fundamental right, a reality for all.
 C. The task is staggering even if we go by conservative estimates.
 D. The housing shortage to be met during the Plan is 26.53 million units, which include the backlog from the 10th Plan.
 E. If the existing stock of poor quality dwellings and the growing urbanization–driven demand are taken into account, the real deficit will be even higher.
- (1) ADBEC (2) ACDEB (3) ABEDC (4) ABCDE
155. A. The upsurge of public activism against the setting up of Special Economic Zones, which eventually forced the State Government to announce the scrapping of all 15 such projects, is an impressive case in point.
 B. Early last year, a similar agitation coerced the government into calling for a revision of the Goa Regional Plan 2011, a controversial document that opened up large swathes of land, including green belts and coastal stretches, for construction.
 C. The broad–based agitation against SEZs has demonstrated the power of popular protest in the State.
 D. Those opposed to the projects had questioned the propriety of the government acquiring large tracts of land and then selling them to promoters at low prices.
 E. A coastal State with an area of 3,700 square kilometers and a population of about 1.4 million, Goa has always been extremely sensitive to the impact of unrestrained economic development.
- (1) CDEAB (2) BCDEA (3) EABCD (4) DABCE
156. A. India's security apparatus responds well when beset by crisis. However, successful security depends not on crisis.
 B. Potential targets must be secured as if terror strikers were imminent.
 C. Here the Indian system's record is appalling.
 D. Despite years of painful experience, sensitive government installations in New Delhi, including the headquarters of some of India's key military organizations and covert services, are defended in a manner that would be considered unconscionably negligent in many parts of the world.
 E. However, successful security depends not on crisis–time creativity but on the disciplined and effective implementation of mundane, everyday protocols.
- (1) ABDEC (2) AEBCD (3) ADECB (4) ABEDC
157. A. On the Republican side, the Iowa results have left the picture somewhat murkier.
 B. Mike Huckabee beat the putative front–runner, Mitt Romney, by a margin of 34.4 per cent to 25.4 per cent, but is not expected to carry the momentum forward into New Hampshire.
 C. Mr. Huckabee's victory is attributable largely to the strong support he got from evangelical Christians who are estimated to make up as much as 60 per cent of the caucus – goers.
 D. Social and religious conservatives, will constitute only small proportion of voters, in which national security and fiscal concerns are expected to be the main issues.
 E. However, while Mr. Romney might be free of a Huckabee challenge in New Hampshire, he might be hard pressed to fend off John McCain and Rudolph Guiliani, both of whom largely stayed out of the Iowa campaign.
- (1) ABCDE (2) AEBCD (3) ACDEB (4) ABCED

158. A. Using biofuels made from corn, sugar cane and soy could have a greater environmental impact than burning fossil fuels, according to experts.
 B. Although the fuels themselves emit fewer greenhouse gases, they all have higher costs in terms of biodiversity loss and destruction of farmland.
 C. The EU has proposed that 10% of all fuel used in transport should come from biofuels by 2020 and the emerging global market is expected to be worth billions of dollars a year.
 D. But the new fuels have attracted controversy.
 E. The problems of climate change and the rising cost of oil have led to a race to develop environment-friendly biofuels, such as palm oil or ethanol derived from corn and sugar cane.
- (1) DECBA (2) ABCED (3) ABECD (4) CDEBA

Directions for questions 159 – 163: A television manufacturing company produces four models of televisions viz. TV 29", TV 25", TV 21", and TV 17". In the year 2006 the company generated a revenue of Rs. 1 crore by selling 1000 televisions. The cost of manufacturing, model-wise, is as given below:

- TV 29" = Rs. 4000
 TV 25" = Rs. 3900
 TV 21" = Rs. 3500
 TV 17" = Rs. 3200

Study the following pie charts to answer these questions

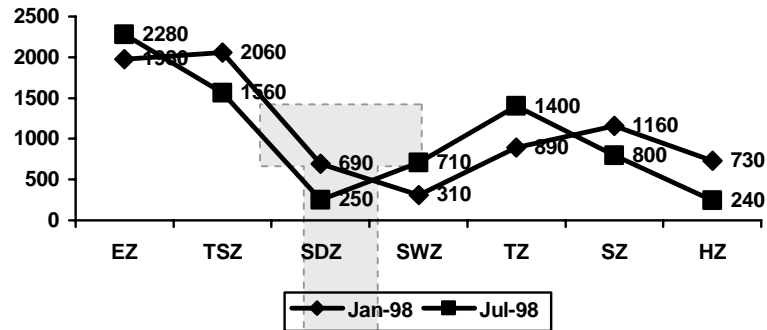


Note: Profit = Sales Value – Manufacturing Cost

159. For which model was the selling price per unit greater than the average selling price?
 (1) TV 21" (2) TV 17" (3) TV 25" (4) TV 29"
160. What was the profit generated by the TV 29" model (in Rs. Lakhs)?
 (1) 5 (2) 4 (3) 1 (4) 2
161. What was the profit margin of the TV 25" model?
 (1) 11.4% (2) 53.8% (3) 24.6% (4) 38.2%
162. The maximum percentage profit was for the model
 (1) TV 25" (2) TV 29" (3) TV 21" (4) TV 17"
163. Total profit earned by the company in the year 2006 was Rs. _____ million.
 (1) 6.47 (2) 5.58 (3) 9.72 (4) 12.70

Directions for questions 164 – 168: Study the graph below to answer these questions.

Total Rainfall (in mm)



EZ = Equatorial zone

TSZ = Tropical summer zone

SDZ = Subtropic dry zone

SWZ = Subtropic winter zone

TZ = Temperate zone

SZ = Subpolar zone

HZ = Highpolar zone

164. Rainfall in equatorial zone in January is what per cent less/more than that of rainfall in temperate zone in July?
 (1) 41.42% (2) 39.25% (3) 36.04% (4) 23.68%
165. What is the average rainfall around the world in the whole year?
 (1) 1075.71 mm (2) 1034.28 mm (3) 1050 mm (4) 978.67 mm
166. In which of the following zone is there maximum increase in rainfall in July?
 (1) Subpolar (2) Equatorial (3) Tropical Summer (4) Temperate
167. Decrease in rainfall in subpolar zone is what per cent of increase in subtropic winter zone in July?
 (1) 80% (2) 85% (3) 72% (4) 90%
168. Average rainfall in July is approximately how much more/less than the average rainfall in January?
 (1) 8.15% less (2) 3% more (3) 9.32% less (4) None of these
169. In its six-monthly review of Monetary Policy 2007 – 08, which rate has not been changed by RBI?
 (1) Bank Rate (2) Cash Reserve Ratio (3) Repo Rate (4) Both (1) and (3)
170. Who succeeded Kiran Karnik as President of National Association of Software and Service Companies (NASSCOM) in January 2008?
 (1) Som Mittal (2) Shanta Sinha (3) Laxmi Narayan (4) R.N. Memami
171. Which state has won the Telecom India Excellence Award 2007?
 (1) Madhya Pradesh (2) Punjab (3) Karnataka (4) Haryana
172. Which state has been ranked as the best state for the fifth consecutive year by India Today?
 (1) Punjab (2) Kerala (3) Karnataka (4) Tamil Nadu
173. The Suzuki Corporation has launched its first scooter for the Indian market. What is the name of scooter?
 (1) Access 125 (2) Marut 125 (3) Excellent X (4) Pawan 125
174. Who is the first Pakistani woman who has been trained to go into space?
 (1) Zeenat (2) Sameera (3) Nameera (4) Shazia

175. RBI is a
 (1) Private bank (2) Central bank (3) Commercial bank (4) Foreign bank
176. The Government of India recently decided to halt the Future Trading of which of the following commodities of the time being?
 (1) Jeera (2) Soya oil (3) Wheat (4) Gram
177. Which of the following companies in India is considered as 'Indian Reinsurer' and gives support to all public and private insurance companies?
 (1) Life Insurance Corporation of India (2) New India Assurance Company
 (3) General Insurance Corporation of India. (4) Oriental Insurance Company Ltd.
178. Who wrote the book 'Precepts of Jesus'?
 (1) Devendranath Tagore (2) Raja Rammohan Roy
 (3) Ishwarachandra Vidyasagar (4) Keshab Chandra Sen
179. The film director who won the Best Film Award and Golden Peacock during 37th IFFI at Goa is from
 (1) Japan (2) China (3) Iran (4) Russia
180. Which among the following statements regarding the supercomputer 'EKA' is incorrect?
 (1) It has been named as Asia's fastest supercomputer.
 (2) It has been developed by IBM Systems.
 (3) It is the world's fourth fastest supercomputer.
 (4) None of these
181. Which day is observed as World Habitat Day?
 (1) September 30 (2) September 15 (3) October 1 (4) October 30
182. Who has been awarded the Man Booker Prize for 2007?
 (1) Anne Enright (2) Indra Sinha (3) Mohsin Hamid (4) Nicola Barker
183. Which game will be played for the first time in Asian Games, 2010?
 (1) Kabaddi (2) Twenty 20 cricket (3) Squash (4) Kho-kho

Directions for questions 184 – 188: Answer the questions based on the data of sugar industry given in the table. Figures are in lakh tones (lt).

	2006 – 07 *	2007 – 08 **	2008 – 09 ***	2009 – 10 ****
Opening Stock				
With factories	39	56	126	86
Buffer stock	00	50	50	50
Production	285	310	215	210
Total supply	324	416	391	346
Offtake				
Domestic use	200	210	220	225
Exports	18	30	35	30
Total demand	218	240	255	255
Balance	106	176	136	91

184. If for the year 2009 – 10, the forecasted domestic demand for sugar is up by 10% over the actual domestic demand in the year 2006 – 07 while the forecasted production is down by 15% over the year 2006 – 07, then total supply–demand gap keeping the remaining forecasted data unchanged would be nearly
 (1) 84 lt (2) 68 lt (3) 128 lt (4) None of these

185. If the total actual demand for sugar in the year 2006 – 07 was 14% higher than the figure mentioned in the table, then the new total supply–demand gap for the year 2006 – 07, if the production remains same, is
(1) 50.16 lt (2) 48.36 lt (3) 75.48 lt (4) 60.32 lt
186. The increase in lakh tones in forecasted total demand for the year 2009 – 10 and estimated total demand for the year 2008 – 09 is
(1) 4.3 lt (2) 5.5 lt (3) 2.8 lt (4) nil
187. The growth rate in domestic demand over the period 2006 – 07 to 2009 – 10 is
(1) 1.25% (2) 12.5% (3) 10% (4) 25%
188. The percentage increase in production between the year 2006 – 07 and 2007 – 08 is
(1) 25% (2) 12.5% (3) 8.8% (4) 6.5%
189. The sum of the place values of 3 in the number 50 35 35 is
(1) 3300 (2) 0.6 (3) 60 (4) 3030
190. $(999^2 - 998^2)$ is equal to
(1) 1 (2) 999 (3) 1997 (4) 998
191. $1000.01 - 99.987$ is equal to
(1) 901.023 (2) 900.023 (3) 0.14 (4) 901.977
192. The number of two digit numbers exactly divisible by 3 is
(1) 33 (2) 32 (3) 31 (4) 30
193. The diagonals of a rhombus are 24 cm and 10 cm. Its area is
(1) 240 cm^2 (2) 312 cm^2 (3) 130 cm^2 (4) 120 cm^2
194. A circle road runs around a circular garden. If the difference between the circumference of the outer circle and the inner circle is 44 m, the width of the road is
(1) 4 m (2) 7 m (3) 3.5 m (4) 7.5 m
195. Ratio of Ashok's age to Pardeep's age is 4 : 3. Ashok will be 26 years old after 6 years. How old is Pardeep now?
(1) 18 years (2) 21 years (3) 15 years (4) 24 years
196. Dimensions of a cuboid are $25 \text{ cm} \times 20 \text{ cm} \times 4 \text{ cm}$. The volume of a cube is half the volume of the cuboid. Total surface of such a cube is
(1) 400 cm^2 (2) 600 cm^2 (3) 800 cm^2 (4) 1200 cm^2
197. A garden is 24 m long and 14 m wide. There is a path 1 m wide outside the garden along its sides. If the path is to be constructed with square marble tiles $20 \text{ cm} \times 20 \text{ cm}$, the number of tiles required to cover the path is
(1) 1800 (2) 200 (3) 2000 (4) 2150
198. How many litres of water flows out of a pipe of cross section 5 cm^2 in 1 min. If the speed of water in the pipe is 20 cm/sec?
(1) 2 litres (2) 5 litres (3) 6 litres (4) 9 litres
199. 2 cm of rain has fallen on a sq. km of land. Assuming that 50% of the raindrops could have been collected and contained in a pool having a $100 \text{ m} \times 10 \text{ m}$ base, by what level would the water level in the pool have increased?
(1) 15 m (2) 20 m (3) 10 m (4) 25 m
200. The perimeter of a right angled triangle is 60 cm. Its hypotenuse is 26 cm. The area of the triangle is
(1) 120 sq. cm. (2) 240 sq. cm. (3) 390 sq. cm. (4) 780 sq. cm.

ANSWERS

1. (4)	2. (2)	3. (4)	4. (2)	5. (2)	6. (4)	7. (3)	8. (4)
9. (3)	10. (3)	11. (1)	12. (1)	13. (4)	14. (2)	15. (2)	16. (1)
17. (2)	18. (3)	19. (4)	20. (3)	21. (1)	22. (2)	23. (2)	24. (3)
25. (4)	26. (2)	27. (3)	28. (1)	29. (3)	30. (4)	31. (1)	32. (2)
33. (3)	34. (4)	35. (1)	36. (4)	37. (2)	38. (4)	39. (1)	40. (3)
41. (4)	42. (2)	43. (4)	44. (4)	45. (4)	46. (3)	47. (2)	48. (3)
49. (1)	50. (4)	51. (2)	52. (2)	53. (3)	54. (3)	55. (3)	56. (1)
57. (2)	58. (2)	59. (4)	60. (4)	61. (3)	62. (2)	63. (4)	64. (1)
65. (2)	66. (2)	67. (4)	68. (3)	69. (4)	70. (1)	71. (2)	72. (2)
73. (1)	74. (4)	75. (2)	76. (3)	77. (1)	78. (4)	79. (4)	80. (4)
81. (1)	82. (3)	83. (3)	84. (2)	85. (3)	86. (3)	87. (2)	88. (3)
89. (3)	90. (4)	91. (3)	92. (1)	93. (3)	94. (2)	95. (1)	96. (1)
97. (4)	98. (2)	99. (2)	100. (2)	101. (4)	102. (4)	103. (1)	104. (2)
105. (1)	106. (1)	107. (3)	108. (4)	109. (3)	110. (4)	111. (1)	112. (3)
113. (3)	114. (2)	115. (3)	116. (4)	117. (4)	118. (1)	119. (3)	120. (1)
121. (3)	122. (4)	123. (4)	124. (3)	125. (4)	126. (4)	127. (3)	128. (3)
129. (1)	130. (3)	131. (4)	132. (4)	133. (4)	134. (4)	135. (3)	136. (4)
137. (3)	138. (4)	139. (4)	140. (4)	141. (3)	142. (1)	143. (1)	144. (3)
145. (4)	146. (1)	147. (2)	148. (1)	149. (3)	150. (1)	151. (4)	152. (1)
153. (3)	154. (4)	155. (3)	156. (2)	157. (1)	158. (3)	159. (2)	160. (3)
161. (2)	162. (4)	163. (1)	164. (1)	165. (1)	166. (4)	167. (4)	168. (1)
169. (4)	170. (1)	171. (4)	172. (1)	173. (1)	174. (3)	175. (2)	176. (3)
177. (3)	178. (2)	179. (2)	180. (2)	181. (3)	182. (1)	183. (2)	184. (3)
185. (3)	186. (4)	187. (2)	188. (3)	189. (4)	190. (3)	191. (2)	192. (4)
193. (4)	194. (2)	195. (3)	196. (2)	197. (3)	198. (3)	199. (3)	200. (1)

