M A T – 2 0 0 8
(3ʳᵈ F e b)
QUANTITATIVE ABILITY

1. 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%

2. 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

3. 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) 0.8   (2) 0.2   (3) 0.4   (4) 0.7

4. 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

5. 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

6. 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

7. At the first stop on his route, a driver unloaded 2/5 of the packages in his van. After he unloaded another three packages at his next stop, ½ 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

8. 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%

9. An investor earns 3% return on 1/4ᵗʰ of his capital, 5% on 2/3ʳᵈ 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%

10. 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 the 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

11. 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

12. Sita buys a fridge at 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

13. The sum of the place values of 3 in the number 50 35 35 is

    (1) 3300   (2) 0.6   (3) 60   (4) 3030

14. $(999^2 – 998^2)$ is equal to

    (1) 1   (2) 999   (3) 1997   (4) 998

15. 1000.01 – 99.987 is equal to

    (1) 901.023   (2) 900.023   (3) 0.14   (4) 901.977

16. The number of two digit numbers exactly divisible by 3 is

    (1) 33   (2) 32   (3) 31   (4) 30

17. 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

18. 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

19. 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

20. Dimensions of a cuboid are 25 cm × 20 cm × 4 cm. The volume of a cube is hall 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

21. 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 cm × 20 cm, the number of tiles required to cover the path is

    (1) 1800   (2) 200   (3) 2000   (4) 2150

22. 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

23. 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 m × 10 m bare, by what level would the water level in the pool have increased?

    (1) 15 m   (2) 20 m   (3) 10 m   (4) 25 m

24. 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.

25. 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

LOGICAL REASONING + DATA INTERPRETATION

Directions for questions 26 – 30: 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.

26.

Column A	Column B
Cube root of Three	Fourth root of Four

27.

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

28.

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

29.

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

30.

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

Direction for questions 31 – 33: Complete the series.

31. AGMS ciou?

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

32. 48, 24, 72, 36, 108, ?

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

33. K – 11, M – 13, P – 16, T – 20, ?

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

Directions for questions 34 – 36: 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 Dept. (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.

34. 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

35. 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

36. 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 37 – 39: 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.

37. Which of the following paints is orange in colour?

    (1) C   (2) A   (3) D   (4) G

38. Paint B is kept in which tin?

    (1) S   (2) T   (3) U   (4) Q

39. Which tin contains blue paint?

    (1) R   (2) P   (3) S   (4) None of these

40. 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

41. 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 the moving?

    (1) South–West   (2) South–East   (3) North–East   (4) North–West

42. 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

43. 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

44. 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 meters. 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

45. 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

Directions for questions 46 – 50: 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 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

46. The percentage change in Km per litre from 2002 to 2005 was nearly

    (1) + 3%   (2) – 3%   (3) – 30%   (4) – 0.3%

47. In which year was the Fuel Savings in litres maximum?

    (1) 2004   (2) 2005   (3) 2001   (4) 2002

48. The Fuel Cost per litre was maximum in the year

    (1) 2002   (2) 2005   (3) 2004   (4) 2003

49. 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

50. The average Km per litre during 2001 to 2005 was

    (1) 6.00   (2) 6.50   (3) 6.10   (4) 6.25

GENGERAL KNOWLEDGE

51. Which one of the following took over the angle – Dutch Steel Company Corus?

    (1) Arcelor Mittal   (2) Jindal steel

    (3) Neelanchal Ispat Nigam Ltd.   (4) Tata Steel

52. Which of the following public sector organization is listed on New York Stock Exchange?

    (1) SAIL   (2) MNTL   (3) GAIL   (4) None of these

53. Who is the president of India?

    (1) Jawahar Lal   (2) APJ Abdul Kalam   (3) Ram Shankar   (4) None of these

54. For International Payments the Indian currency is linked to

    (1) British Sterling   (2) American Dollar   (3) International Oil Price   (4) Gold Standard

55. Who is the chief of Pakistan Army?

    (1) General Naseem Shakel   (2) General Arhlar Parvez Kiyani

    (3) General Parvez Musshrof   (4) None of these

56. 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

57. Monsoon is caused by

    (1) Impact of summer temperatures on the seas   (2) Movement of clouds

    (3) Seasonal reversal of winds   (4) Rise in temperatures

58. The Indian Company that manufactures automobiles for Mitsubishi is

    (1) Tata Motors   (2) Bajaj Tempo   (3) Mahindra   (4) Hindustan Motors

59. The world's busiest port today

    (1) Port of Rotterdam   (2) Part of Shanghai   (3) Port of Singapore   (4) Port of Dubai

60. 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

61. Which of these is not a film directed by Mira Nair?

    (1) Earth   (2) Monsoon Wedding   (3) Kamasutra   (4) Salaam Bombay

62. Major oil finds are recently reported in

    (1) Krishna Godavari Basin   (2) Cauvery Basin

    (c Rajasthan Desert   (4) Lower Assam Valley

63. Which of the following countries is the top source of FDI inflows into India at present?

    (1) Singapore   (2) USA   (3) UK   (4) Mauritius

64. 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

65. 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

66. 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

67. 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

68. 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

69. 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

70. 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

71. 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

72. Which one of the following is not a constitutional body?
    (1) Union Public Service Commission
    (2) Election Commission
    (3) Planning Commission
    (4) Finance Commission

73. 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

74. 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

75. Which day is observed as World Habitat Day?
    (1) September 30
    (2) September 15
    (3) October 1
    (4) October 30

ANSWER KEY

1. (2)	2. (2)	3. (1)	4. (3)	5. (3)	6. (4)	7. (3)	8. (1)
9. (2)	10. (2)	11. (3)	12. (4)	13. (4)	14. (3)	15. (2)	16. (4)
17. (4)	18. (2)	19. (3)	20. (2)	21. (1)	22. (3)	23. (3)	24. (1)
25. (4)	26. (2)	27. (3)	28. (3)	29. (2)	30. (3)	31. (3)	32. (4)
33. (3)	34. (4)	35. (4)	36. (4)	37. (3)	38. (1)	39. (1)	40. (2)
41. (3)	42. (1)	43. (4)	44. (2)	45. (2)	46. (2)	47. (3)	48. (1)
49. (3)	50. (3)	51. (4)	52. (2)	53. (4)	54. (2)	55. (2)	56. (4)
57. (3)	58. (4)	59. (3)	60. (3)	61. (1)	62. (1)	63. (4)	64. (3)
65. (4)	66. (3)	67. (4)	68. (1)	69. (3)	70. (3)	71. (2)	72. (3)
73. (4)	74. (4)	75. (3)					