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IRMA MBA EXAM 2010: QUANTITATIVE
ABILITY QUESTION PAPER

Directions—(Q. 1–5) What approximate value should come in place of question-mark (?) in the following questions ?

(You are not expected to calculate the exact value.)

1. $(793 \cdot 222 - 142 \cdot 386) \div 5 \cdot 4329 = ?$
 (A) 95 (B) 106
 (C) 138 (D) 158
 (E) 120
2. $511 \cdot 328 + 4 \cdot 4763 \times 89 \cdot 213 = ?$
 (A) 776 (B) 748
 (C) 922 (D) 910
 (E) 1025
3. $(842 \cdot 62)^2 = ?$
 (A) 715000 (B) 720300
 (C) 710000 (D) 720000
 (E) 701000
4. $(482\% \text{ of } 393) \div 99 = ?$
 (A) 60 (B) 20
 (C) 90 (D) 40
 (E) 70
5. $612384 \times 52 = ? \times 39908$
 (A) 800 (B) 775
 (C) 825 (D) 750
 (E) 850
6. Mansi started a business investing Rs. 42,000. After 7 months Kanya joined her with a capital of Rs. 50,000. At the end of the year the total profit was Rs. 30,160. What is the share of profits of Kanya ?
 (A) Rs. 10,000 (B) Rs. 20,160
 (C) Rs. 10,160 (D) Rs. 8,000
 (E) None of these
7. The compound interest accrued on an amount of Rs. 25,000 at the end of four years is Rs. 5,387·65625. What would be the simple interest accrued on the same amount at the same rate in the same period ?
 (A) Rs. 5,350 (B) Rs. 5,285
 (C) Rs. 5,000 (D) Rs. 5,100
 (E) None of these

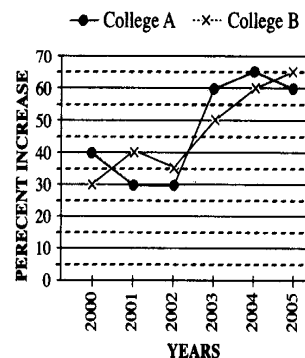
8. Niharika invests some amount @ 12 p.c.p.a. to get compound interest for a period of three years. She also invests an equal amount on same terms and conditions to get simple interest. She finds at the end of three years that the difference between the yields is Rs. 1,123·2. How much did she invest under each scheme ?
 (A) Rs. 35,500 (B) Rs. 45,800
 (C) Rs. 25,000 (D) Rs. 15,000
 (E) None of these
9. The profit earned after selling an article for Rs. 998 is the same as loss incurred after selling the article for Rs. 864. What is the cost price of the article ?
 (A) Rs. 978 (B) Rs. 921
 (C) Rs. 980 (D) Rs. 931
 (E) None of these
10. Devyani was asked to put, in a box of 18 cm × 18 cm × 18 cm, small plastic cubes of 0·90 cm × 0·90 cm × 0·90 cm how many such cubes can she accommodate in the box ?
 (A) 729 (B) 6,000
 (C) 5,832 (D) 8,000
 (E) None of these
11. In a class of 40 students and 5 teachers, each student got sweets that are 25% of the total number of students and each teacher got sweets that are 15% of the total number of students. How many sweets were there ?
 (A) 480 (B) 440
 (C) 430 (D) 450
 (E) None of these
12. Ruchika purchased a flat of 1,000 sq. feet for Rs. 35,75,000 after getting a discount of 15% on the standard price. She sold the flat at a price to get 13% profit. At what price did she sell the flat ?

- (A) Rs. 43,40,950
- (B) Rs. 40,39,750
- (C) Rs. 46,47,850
- (D) Rs. 48,46,650
- (E) None of these

13. By how much is $\frac{3}{4}$ th of 316 greater than $\frac{7}{9}$ th of 225 ?
 (A) 62 (B) 56
 (C) 48 (D) 34
 (E) None of these
14. The ages of Shivali and Tanisha are in the ratio of 11 : 7 respectively. After 8 years the ratio of their ages will be 15 : 11. What is the difference in years between their ages ?
 (A) 4 years (B) 10 years
 (C) 6 years (D) 8 years
 (E) None of these
15. Anurag spent Rs. 56,771 on his coaching classes fees, Rs. 21,475 on enrolment charges and the remaining 31% of the total amount he had as cash with him. What was the total amount ?
 (A) Rs. 1,13,400
 (B) Rs. 1,14,400
 (C) Rs. 1,15,400
 (D) Rs. 1,16,400
 (E) None of these

Directions—(Q. 16–20) Study the graph carefully to answer the questions that follow—

Per cent Increase in Number of Students Studying in Colleges A and B over the Years



16. If the number of students studying in College B in the year 2002 was 30,375, what was the number of students studying in that College in the year 2001 ?
 (A) 22,500
 (B) 30,800
 (C) 17,500
 (D) Cannot be determined
 (E) 12%
17. What is the average per cent increase in number of students of College B over the years ?
 (Rounded off to two digits after decimal)
 (A) 38.27 (B) 51.04
 (C) 35.76 (D) 46.67
 (E) None of these
18. If the number of students studying in College A in the year 2001 was 2,520, what was the number of students studying in that college in the year 2002 ?
 (A) 2,481 (B) 3,276
 (C) 3,940 (D) 2,965
 (E) None of these
19. Which of the following statements is true based on the graph ?
 (A) The number of students studying in College B in the year 2002 was less than the number of students in 2001
 (B) Number of students studying in College B were more than the number of students studying in College A in the year 2005
 (C) The number of students studying in College A in the year 2003 and 2005 were the same
 (D) The increase in the number of students of College A in the year 2004 from the previous year is 5%
 (E) None of these
20. If the number of students studying in College A and B in the year 2003 was 4,000 each, what was the respective ratio of the number of students studying in College A and B in the year 2004 ?
 (A) 31 : 30 (B) 30 : 31
 (C) 33 : 32 (D) 32 : 33
 (E) None of these

Directions—(Q. 21–25) Study the information below and answer the questions that follow—

In a school of 3,000 students, the ratio of girls to boys is 7 : 8 respectively. All the students study three different languages viz. Hindi, English and Marathi. 30% of the boys study only English. Two-seventh of the girls study only English and Hindi. One-eighth of the boys study only English and Marathi. Number of girls studying only English is 85% of the boys studying the same. Two-fifth of the boys study only Hindi and Marathi. 40% of the girls study only Hindi. The remaining girls study only Hindi and Marathi. The number of boys studying only English and Hindi is 10% of the girls studying the same. The remaining boys study only Hindi.

21. Number of boys studying only Hindi form approximately what per cent of the number of girls studying only Hindi ?
 (A) 22 (B) 63
 (C) 36 (D) 58
 (E) None of these
22. What is the total number of girls studying Hindi ?
 (A) 960 (B) 592
 (C) 992 (D) 432
 (E) None of these
23. What is the respective ratio of total number of boys studying English to the total number of girls studying English ?
 (A) 90 : 101 (B) 101 : 90
 (C) 65 : 101 (D) 101 : 65
 (E) None of these
24. What is the total number of students studying only English ?
 (A) 648 (B) 888
 (C) 726 (D) 908
 (E) None of these
25. How many girls do not study Marathi ?
 (A) 968 (B) 960
 (C) 808 (D) 1368
 (E) None of these

Directions—(Q. 26–27) Answer the questions based on the following information—

On a shelf there are 3 books on Psychology, 3 books on Management and 4 books on Economics.

26. In how many ways can the books be arranged, if the books on only

Management are to be arranged together ?

- (A) 62540 (B) 320
 (C) 40320 (D) 1970
 (E) None of these

27. In how many ways can all the books be arranged at random ?
 (A) 3628800 (B) 41520
 (C) 30020 (D) 4164840
 (E) None of these

Directions—(Q. 28 and 29) Answer the questions based on the following information—

An urn contains 6 red, 5 blue and 2 green marbles.

28. If three marbles are picked at random, what is the probability that at least one is blue ?
 (A) $\frac{28}{143}$ (B) $\frac{115}{197}$
 (C) $\frac{28}{197}$ (D) $\frac{115}{143}$
 (E) None of these
29. If 2 marbles are picked up at random, what is the probability that both are red ?
 (A) $\frac{6}{13}$ (B) $\frac{5}{26}$
 (C) $\frac{5}{13}$ (D) $\frac{7}{26}$
 (E) None of these

Directions—(Q. 30–35) Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answers—

- (A) If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- (B) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- (C) If the data either in statement I alone or in statement II alone is sufficient to answer the question.
- (D) If the data in both the statements I and II together are not sufficient to answer the question.

- (E) If the data in both the statements I and II together are necessary to answer the question.
30. What is the two digit number ?
 I. Digit in ten's place is more than the digit in unit's place by 8.
 II. Product of the digits is zero.
31. Is x a positive integer ?
 I. $x > y^2$, y is a -ve integer.
 II. $z > x > y$, z is a +ve integer.
32. What is the cost of laying carpet on the floor of a rectangular hall?
 I. Area of the hall is 400 metre².
 II. Cost of laying the carpet is Rs. 85 per metre².
33. What are Sudha's marks in English if each subject has marks out of 75 ?
 I. Sudha's average marks in English, Maths and Science are 50.
 II. Her average marks in Maths, Hindi and English are 49.
34. How many students are studying Arts in XYZ college of Arts and Science ?
 I. Number of students studying Arts and Science are in the ratio of 2 : 5 respectively.
 II. Number of students studying science is more than the number of students studying Arts by 135.
35. What is Mr. Sharma's present salary ?
 I. Mr. Sharma's salary increases every year by 15%.
 II. His salary will increase by Rs. 8,062.50.
36. Which Company has manufactured the maximum number of Cell Phones over the years ?
 (A) A (B) C
 (C) D (D) F
 (E) None of these
37. What is the respective ratio of total number of Cell Phones manufactured by Companies A, B and C together in the year 2001 to those manufactured by Companies D, E and F together in the year 2003 ?
 (A) 46 : 83 (B) 43 : 83
 (C) 43 : 86 (D) 46 : 89
 (E) None of these
38. What is the percentage of number of Cell Phones sold by Company D in the year 2002 to those manufactured by it in that year ? (Rounded-off to two digits after decimal)
39. What is the total number of Cell Phones sold by Company B in all the years together ?
 (A) 386000
 (B) 357000
 (C) 320000
 (D) 379000
 (E) None of these
40. What is the approximate per cent increase in the number of Cell Phones sold by Company E in the year 2005 from the previous year ?
 (A) 62 (B) 48
 (C) 39 (D) 23
 (E) 53

Directions—(Q. 41–45) Study the table carefully to answer the questions that follow—

Farmer	Total Income (Rs. in lakhs)	Percentage of Income Generated				
		Wheat	Rice	Bajra	Jowar	Maize
J	2.55	28	36	12	15	9
K	2.00	27	26	16	13	18
L	1.85	19	32	18	18	13
M	1.75	23	29	21	17	10
N	2.15	14	19	26	23	18
O	2.40	16	14	27	21	22

41. Which Farmer has generated the maximum amount of Income from the sale of Rice ?
 (A) K (B) L
 (C) M (D) N
 (E) None of these
42. What is the total income generated by the sale of Maize by all Farmers together ?
 (A) Rs. 1,54,000
 (B) Rs. 1,92,000
 (C) Rs. 1,80,600
 (D) Rs. 1,67,500
 (E) None of these

Directions—(Q. 36–40) Study the table carefully to answer the questions that follow—

Year	Company											
	A		B		C		D		E		F	
	M	S	M	S	M	S	M	S	M	S	M	S
2001	34	28	30	21	28	19	25	18	31	27	21	16
2002	41	35	40	32	36	27	32	27	42	34	40	32
2003	49	40	46	37	42	31	50	44	45	38	71	65
2004	55	45	58	49	48	39	73	62	68	51	92	80
2005	70	61	85	70	60	51	98	87	89	78	115	96
2006	108	98	120	111	75	63	108	96	115	100	135	118

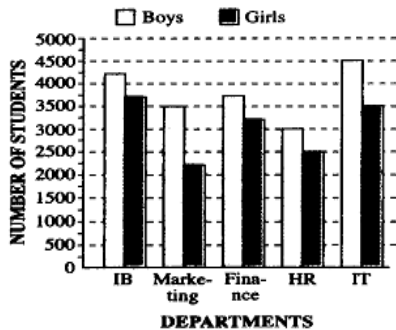
43. What is the income generated by Farmer K from the sale of Wheat and Rice together ?
 (A) Rs. 98,900
 (B) Rs. 1,15,000
 (C) Rs. 1,06,000
 (D) Rs. 1,10,500
 (E) None of these
44. What is the respective ratio of income generated from the sale of Jowar by Farmer N to that by Farmer O ?

- (A) 989 : 1008 (B) 873 : 967
 (C) 967 : 873 (D) 1008 : 989
 (E) None of these
- (A) 52 (B) 83
 (C) 69 (D) 25
 (E) 99

45. Income generated by Farmer M from the sale of Bajra is **approximately** what per cent of the total income generated by all Farmers together from the same Food-grain ?
 (A) 26 (B) 8
 (C) 21 (D) 15
 (E) 11
50. The number of girls from IT Department is **approximately** what per cent of the total number of girls from all the Departments together ?
 (A) 47 (B) 38
 (C) 23 (D) 13
 (E) 30

Directions—(Q. 46–50) Study the following graph carefully to answer the questions that follow—

Total Number of Boys and Girls in Five Different Departments



46. What is the difference between the total number of boys and the total number of girls from all the Departments together ?
 (A) 1,000 (B) 3,150
 (C) 3,750 (D) 500
 (E) None of these
47. What is the average number of boys from all the Departments together ?
 (A) 3,600 (B) 3,800
 (C) 3,300 (D) 3,000
 (E) None of these
48. What is the respective ratio of number of girls from Finance Department to the number of girls from IB Department ?
 (A) 15 : 14 (B) 15 : 16
 (C) 5 : 7 (D) 13 : 15
 (E) None of these
49. The total numbers of boys from HR and Marketing Departments together are what per cent of the total number of boys from IT, Finance and IB Departments together ?