## MODEL TEST PAPER KMAT MBA

## MATHEMATICAL SKILLS

Directions (1-5) : What approximate value should come in place of the question mark (?) in the following questions? (Note: You are not expected to calculate the exact value.)

1. $\sqrt{1850}=$ ?
(1) 43
(2) 56
(3) 32
(4) 28
(5) 49
2. $17.998 \times 23.005 \times 11.99=$ ?
(1) 3824
(2) 4055
(3) 5138
(4) 5446
(5) 4964
3. $9876.5 \div 18.5 \div 3.2=$ ?
(1) 128
(2) 194
(3) 152
(4) 167
(5) 179
4. $(18.6)^{3}=$ ?
(1) 7245
(2) 5225
(3) 6435
(4) 7705
(5) 8045
5. $\frac{2225}{7} \times \frac{867}{5} \times \frac{119}{4}=$ ?
(1) 1511345
(2) 1639714
(3) 1851216
(4) 1420165
(5) 1583628
6. In how many different ways can the letters of the word 'CREAM' be arranged?
(1) 480
(2) 120
(3) 260
(4) 25
(5) None of these
7. What will be the difference between the simple interest and compound interest accrued on an amount of ₹ $19,200 /-$ at the end of 3 years @ 12 p.c.p.a?
(1) ₹ 722.6826
(2) ₹ 802.5144
(3) ₹ 862.6176
(4) ₹ 798.1824
(5) None of these
8. A 240 metre long train crosses a platform in 20 seconds. What is the speed of the train?
(1) 10 metres $/ \mathrm{sec}$.
(2) 12 metres $/ \mathrm{sec}$.
(3) 18 metres $/ \mathrm{sec}$.
(4) Cannot be determined
(5) None of these
9. The number obtained after interchanging the two digits of a two digit number is greater than the original number by 9 . If the sum of the two digits of the number is 13 , what is the original number?
(1) 67
(2) 58
(3) 76
(4) Cannot be determined
(5) None of these
10. The average of the ages of a man and his daughter is 34 . If the respective ratio of their ages four years from now is $14: 5$, what is the daughter's present age?
(1) 12
(2) 18
(3) 10
(4) Cannot be determined
(5) None of these
11. Two trains of lengths 80 m and 120 m respectively are travelling in the same direction. If the first train travelling a speed of 80 Kmph crosses the second train in 24 seconds, then the speed of the second train is :
(1) 50 Kmph
(2) 60 Kmph
(3) 100 Kmph
(4) 120 Kmph
(5) None of these
12. The ratio in the ages of priyanka and Sweta, one year ago, was $4: 5$ and after 1 year it will be $5: 6$. What is the present age of Sweta ?
(1) 10 years
(2) 9 years
(3) 11 years
(4) data inadequate
(5) None of these
13. In the following number series, a wrong number is given. Find out the wrong number.
$508 \quad 2521246028144$
(1) 252
(2) 124
(3) 60
(4) 28
(5) 14
14. What is the least square number exactly divisible by $4,5,6,12,15,18$ and 36 ?
(1) 2250
(2) 3600
(3) 2500
(4) 900
(5) None of these
15. Three cubes of iron, whose sides are $6 \mathrm{~cm}, 8 \mathrm{~cm}$ and 10 cm respectivily, are melted and formed into a single cube. The edge of the new cube formed is
(1) 18 cm
(2) 12 cm
(3) 15 cm
(4) 14 cm
(5) None of these
16. A single discount equivalent to two successive discounts of $18 \%$ and $20 \%$ is
(1) $36 \%$
(2) $35 \%$
(3) $34.4 \%$
(4) $60 \%$
(5) None of these
17. If Narendra goes to his office on cycle at a speed of 10 Kmph , he reaches the office late by 5 min utes. If he goes at a speed of 12 Kmph , he reaches office 10 minutes before time. The distance between office and his home is
(1) 8 Km
(2) 10 Km
(3) 15 Km
(4) 12 Km
(5) None of these
18. If $35 \$ 9-1865=1 * 24$, which of the following digits will replace \$ ?
(1) 7
(2) 6
(3) 3
(4) 8
(5) None of these
19. Which of the following is in descending order?
(1) $\frac{17}{19}, \frac{19}{21}, \frac{13}{17}$
(2) $\frac{19}{21}, \frac{17}{19}, \frac{13}{17}$
(3) $\frac{19}{21}, \frac{11}{17}, \frac{17}{19}$
(4) $\frac{13}{17}, \frac{17}{19}, \frac{19}{21}$
(5) None of these
20. In the following number series, a wrong number is given. Find out the wrong number.
$\begin{array}{lllllll}2 & 6 & 13 & 31 & 69 & 147 & 305\end{array}$
(1) 6
(2) 13
(3) 31
(4) 69
(5) 147

Directions (21-25) : Study the following graph carefully to answer these questions:

Production of Companies A \& B over the given years.

21. What is the ratio between the production of Companies A \& B respectively in the year 2011 ?
(1) $7: 6$
(2) $3: 2$
(3) $2: 3$
(4) $6: 7$
(5) None of these
22. What is the percentage increase in production of Company B in the year 2010, over the previous year?
(1) $40 \%$
(2) $66 \frac{2}{3} \%$
(3) $60 \frac{1}{3} \%$
(4) $48 \%$
(5) None of these
23. What is the total production of Company A (in lakh tons) for the given years ?
(1) 2855
(2) 2750
(3) 3000
(4) 3125
(5) None of these
24. Approximately what is the average production of Company B (in lakh tons) for the given years ?
(1) 400
(2) 380
(3) 410
(4) 325
(5) 355
25. What is the percentage fall in production of Company A in the year 2012 over the year 2011 ? (rounded off to the nearest integer)
(1) 19
(2) 24
(3) 23
(4) 21
(5) None of these

Directions (26-30) : These questions are based on the following table. Study it carefully and answer the questions.

## Marks obtained by six students in different subjects

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 45 | 43 | 95 | 135 | 64 | 36 |
| B | 56 | 36 | 105 | 140 | 72 | 28 |
| C | 46 | 52 | 100 | 120 | 76 | 42 |
| D | 62 | 48 | 110 | 100 | 58 | 38 |
| E | 60 | 50 | 99 | 125 | 70 | 40 |
| F | 58 | 54 | 112 | 90 | 68 | 34 |

26. Which student has obtained the highest marks in the three subjects History, Geography and Maths together?
(1) D
(2) $B$
(3) F
(4) E
(5) None of these
27. What is the average percentage of marks obtained by the students in Science? (rounded off to the nearest integer)
(1) 79
(2) 77
(3) 87
(4) 88
(5) None of these
28. What is the ratio between total marks obtained by D and E respectively ?
(1) $104: 115$
(2) $114: 105$
(3) $101: 14$
(4) $52: 57$
(5) None of these
29. What is the overall percentage of marks obtained by ' $B$ ' in all subjects together (rounded off to two digits after decimal) ?
(1) 73.78
(2) 78.74
(3) 77.74
(4) 74.77
(5) None of these
30. What are the average marks obtained by the students in Geography?
(1) 46
(2) $40 \frac{2}{3}$
(3) 47
(4) $47 \frac{1}{6}$
(5) None of these

Directions (31-35) : Study the following data carefully to answer these questions.

Details about the distribution of students over various disciplines in an institute

Total No. of students $\mathbf{=} \mathbf{2 4 0 0}$


Ratio of Male (M) : Female (F)

| Discipline | Ratio |  |  |
| :--- | :---: | :---: | :---: |
|  | $\mathbf{M}$ | $:$ | F |
| Management | 5 | $:$ | 7 |
| Engin. Degree | 5 | $:$ | 3 |
| Medicine | 4 | $:$ | 5 |
| Pharmacy | 8 | $:$ | 7 |
| Biotechnology | 6 | $:$ | 7 |
| Biochemistry | 5 | $:$ | 9 |
| Engineering Dip. | 9 | $:$ | 8 |

31. What is the difference between the number of male and female students studying Engineering Degree?
(1) 48
(2) 24
(3) 108
(4) 112
(5) None of these
32. How many female students are studying Management ?
(1) 216
(2) 212
(3) 162
(4) 160
(5) None of these
33. What is the ratio between number of male students studying Medicine and the number of female students studying Pharmacy respectively?
(1) $4: 7$
(2) $8: 7$
(3) $8: 5$
(4) $4: 5$
(5) None of these
34. Number of females students studying Engineering Diploma is what per cent of the total number of students studying in the Institute ?
(1) 8
(2) 12
(3) 9
(4) 7
(5) None of these
35. What is the ratio between total number of students studying Biochemistry and the total number of students studying Biotechnology respectively ?
(1) $13: 15$
(2) $13: 17$
(3) $14: 17$
(4) $14: 13$
(5) None of these

Directions (36-40): These questions are based on the data given in following table.
Number of candidates appeared and qualified in a written examination from six states over the years

| State | A |  | B |  | C |  | D |  | E |  | F |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | App. | Qual. | App. | Qual. | App. | Qual. | App. | Qual. | App. | Qual. | App. | Qual. |
| 2006 | 1260 | 240 | 2080 | 350 | 1600 | 275 | 2450 | 420 | 1800 | 270 | 3200 | 380 |
| 2007 | 840 | 190 | 2250 | 400 | 1700 | 290 | 2875 | 480 | 1950 | 290 | 3180 | 360 |
| 2008 | 1100 | 220 | 1850 | 320 | 1650 | 260 | 2700 | 450 | 2640 | 340 | 3520 | 430 |
| 2009 | 1425 | 300 | 1900 | 360 | 1820 | 280 | 3150 | 510 | 3380 | 310 | 3460 | 400 |
| 2010 | 1200 | 225 | 1680 | 280 | 1680 | 300 | 3200 | 515 | 2420 | 380 | 3380 | 390 |
| 2011 | 1050 | 240 | 1800 | 300 | 1900 | 350 | 3360 | 540 | 2250 | 360 | 3900 | 480 |

36. What per cent of candidates appeared from State ' $C$ ' in 2008 have qualified (rounded off to two digits after decimal)?
(1) 15.26
(2) 15.00
(3) 16.25
(4) 16.76
(5) None of these
37. Approximately what is the average number of candidates appeared from State ' A ' for all the given years?
(1) 1250
(2) 1050
(3) 1200
(4) 1100
(5) 1150
38. What is the overall percentage of candidates qualified over appeared from all the states together in 2007 (rounded off to the nearest integer)?
(1) 16
(2) 15
(3) 17
(4) 14
(5) None of these
39. What is the respecitve ratio between the number of candidates qualified from State ' $E$ ' in 2006, 2007 and 2008 together and the number of candidates qualified from State 'D' in 2009, 2010 and 2011 together?
(1) $17: 31$
(2) $13: 17$
(3) $180: 313$
(4) $170: 313$
(5) None of these
40. During which of the following years the percentage increase/decrease in number of candidates appeared from the previous year is the highest for State ' $\mathrm{B}^{\prime}$ ?
(1) 2007
(2) 2010
(3) 2009
(4) 2008
(5) 2011
