3B3N16135(S) (Pages :2) Reg. No:.....
Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC Degree Examination, March/April 2019
GEC2NM06 - Basic Numerical Skills
(2015 Admission onwards)

Max. Time: 3 hours Max. Marks: 80

PART A
I Answer all questions

1. In De Morgan's Law $(A \cup B)' =$
   (a) A∩ B (b) A ∩ B' (c) $A' \cap B'$ (d) $A' \cup B'$
2. Tabular method of describing set is also known as
   (a) Rule method (b) Selector method (c) Roaster method (d) None
3. 3, 1, -1, -3 ..... what is common difference
   (a) 2 (b) -1 (c) -2 (d) None
4. A set which contains only one element is called .....
   (a) Singleton set (b) Null (c) Power set (d) None of these
5. The sum at the end of 2 years for 1000 at 10% p.a, compounded yearly
   (a) 100 (b) 210 (c) 1100 (d) 1210
6. What is a unit matrix?
7. Name two methods of describing a set
8. Find nth term of the series 2, 6,18, 54.....
9. Solve 4x+y=3x+12
10. Represent A - B by means of Venn diagram when A and B are intersecting

(1X10=10)

PART B
II Answer any of the ten following questions

11. Find three numbers in AP whose sum is 9 and the product is - 165.
12. Find the compound interest on Rs 8000/ for 4 years if interest is payable half yearly for the first three years at the rate of 8% per annum and for the fourth year, the interest payable quarterly at the rate of 6% p.a
13. Find the equilibrium price and the quantity exchanged at equilibrium, if supply and demand function are given by S=20+3p and D=160 2p where p is the price charged.
14. Define mean deviation of a set of numbers.
15. Define (i)Set, (ii)Null Set, (iii)Singleton, (iv)Power Set, (v)Universal Set
16. Find the sum at the end of 4 years for Rs. 10,000 at 10% per annum compound interest.
17. Solve $y^2 - y = 7$
18. find the cofactor matrix of $\begin{pmatrix} 3 & 4 & 7 \\ -2 & 5 & 3 \\ 7 & 3 & -9 \end{pmatrix}$
19. If A= { 1,2,3,4} B= { 2,4,6,8} Find AUB, AnB, A-B
20. Distinguish between simple and compound interest
21. What do you mean by Kurtosis ?
22. Solve $y = (x+1)$
    $4x = y + 1$

(2X10=20)

PART C

III Answer any of the five following questions

23. Find the 8^{th} term of 72, -18, 9/2, -9/8....

24. Represent the following frequency table by histogram

Marks :	10-15	15-20	20-25	25-30	30
No of Students :	5	20	47	38	

25. Explain the different methods to collect primary data.

26. Explain Skewness in detail.

27. A man borrows Rs 1000 from a friend. There is no interest charged on the loan, but i to be paid in monthly installment starting with Rs 64 for the first month and decreasi by Rs 2 successively each in following months. In what time will the loan be paid up

28. Find the product of the matrices

$$A = \begin{bmatrix} 1 & 3 & 2 \\ 0 & 2 & 1 \\ 0 & 5 & 3 \end{bmatrix}$$

$$B = \begin{bmatrix} 3 & 1 & 2 \\ 4 & 2 & 3 \\ 4 & -1 & 1 \end{bmatrix}$$

29. Calculate the total interest on Rs 500 for 73 days, Rs 720 for 14 weeks and on Rs 90 3 months, all at 6% per annum

30. List out the main characteristics and functions of statistics

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PART D

II Answer any of the two following questions

31. If the value of the car is depreciated 20% annually, what will be its estimated value end of 10^{th} year if its present value is Rs. 5000?

32. Explain the various measures of central tendency (Averages)

33. Solve $x + y = 3$ and $\frac{x}{y} + \frac{y}{x} = \frac{5}{2}$

34. Solve the following equations using matrices

$$5x - 6y + 4z = 15$$

$$7x + 4y - 3z = 19$$

$$2x + y + 6z = 46$$

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