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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** | | | | | | |
| **B.C.A - II SEMESTER** | | | | | | |
| **SEMESTER EXAMINATION: APRIL 2019**  **CA 2418-Computer Oriented Numerical Analysis and Statistics** | | | | | | |
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| **Time- 2 1/2 hrs** | |  | **Max Marks-70** | | |
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| This paper contains two printed pages and three parts  **PART-A**  **Answer all the questions. Each carries 2 marks 10X2=20**  1.Multiply 0.1234E-49\*0.1111E-54  2.What is normalized floating point representation  3.Write down the procedure for Newton-Raphson method.  4.Find the intervals for the following equation x5=x4+x3+1  5.mention the general equation for Guass-Sedial method  a1x+b1y+c1z=d1  a2x+b2y+c2z=d2  a3x+b3y+c3z=d3  6.Write the formula for second order derivate using the Backward Interpolation formula.  7.Define attribute and variable with examples.  8.Calculate the Arithmetic mean for the following data   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | x | 19 | 21 | 223 | 25 | 27 | 29 | 31 | | f | 13 | 15 | 16 | 18 | 16 | 15 | 13 |   9.What is an empirical formula for mean, median, mode.  10.Define Poisson Variate.  **PART-B**  **Answer any five questions .Each carries 6 marks. 6X5=30**  11a.Explain the consequences of normalized floating point number (3)    b. Find median for the following data (3)     |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | x | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | f | 8 | 13 | 25 | 37 | 23 | 15 | 9 |   12a..Solve using Gaussian method (5)  5x1-x2-2x3=142  2x1-x2-3x3=5  x1-3x2-x3=-30  12b.Write down the formula for Secant method (1)  13a.What is frequency distribution and what are the measures for FD and also explain the positive and negative skewness (5)  b. Mention the formula for second order derivate using farward difference formula.(1)  14a.Using Euler method find out an appropriate solution to the problem. (3)  y’=x-y, y(0)=1 at the point 0.4 taking the step length h=0.2 ,f(x,y)=x-y  b. Find mode for the following data (3)  100,120,100,120,130,120,120,130,120,100,100,100  15a.A die is thrown once, What is the probability of getting a i)multiple of 4 (3)  ii) non multiple of 4  b .A die is thrown once, What is the probability of getting a multiple of 2 or 3. (3)  16.In a binomial distribution ,if n=6 & p=1/3 find mean, median, mode.  17.Define Statistical hypothesis and its types.  **PART C**  **Answer any TWO questions .Each carries 10 marks. 10X2=20**  18a.find out the cube root of 24 by Newton Rapson method correct to 2 decimal points (5)  b.find out (dy/dx) and (dy/dx2) at x=56 (5)   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | X | 50 | 51 | 52 | 53 | 54 | 55 | 56 | | Y | 3.6840 | 3.7084 | 3.7325 | 3.7563 | 3.7798 | 3.8030 | 3.8259 |     19a. Derive Simpsons (1/3)rd rule (8)  b. State the Trapezoidal rule. (2)  20.aCalculate standard deviation and variance for the following distribution (7)   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | x | 8 | 11 | 17 | 20 | 25 | 30 | 35 | | f | 2 | 3 | 4 | 1 | 5 | 7 | 3 |   b. State Multiplication theorem (3) | | | | | | |
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