**Internal Assignment**

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| **SESSION** | **March 2023** |
| **PROGRAM** | **BCA** |
| **SEMESTER** | **I** |
| **course CODE & NAME** | **DCA1103, Basic Mathematics** |
| **CREDITS** | **4** |
| **nUMBER OF ASSIGNMENTS & Marks** | **02 & 30 Marks each** |

**Note:**

* **There will be two sets of assignments for every course and all questions are compulsory in both sets.**
* **Average of both assignments’ marks scored will be considered as Internal Assessment Marks.**
* **Answers for 10 marks questions should be approximately of 400-500 words.**

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| **Set-I** | | | |
| **Q. No** | **Questions** | **Marks** | **Total Marks** |
| **1.** | State inclusion-exclusion principle. In a group of 50 people, 35 speak Hindi, 25 speak both English and Hindi and all the people speak at least one of the two languages. How many people speak only English and not Hindi ? How many people speak English? | **10** | **10** |
| **2.** | Simplify into form and find its modulus and the amplitude. | **10** | **10** |
| **3.** | 1. Solve: . 2. Solve the differential equation. | **5**  **5** | **10** |
| **Set-II** | | | |
| **4.** | 1. By using truth tables, check whether the propositions and are logically equivalent or not? 2. Consider the set under multiplication modulo 18 as a group. Construct the multiplication table for *G* and find the inverse of each element of *G.* | **5**  **5** | **10** |
| **5.** | 1. Let us consider a circle of radius 2 cm. If an arc of this circle subtends an angle of 20 radian to the center, then what is the length of the arc and area of the sector such formed? 2. Evaluate the followings:   (i) (ii) | **5**  **5** | **10** |
| **6.** | 1. Find the derivative of . 2. Find where and . | **5**  **5** | **10** |