**Internal Assignment**

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| **SESSION** | **NOV 2024** |
| **PROGRAM** | **Master of CoMPUTER APPLICATIONS (MCA)** |
| **SEMESTER** | **I** |
| **course CODE & NAME** | **DCA6108 – DISCRETE mATHEMATICS & GRAPH THEORY** |
| **CREDITS** | **4** |
| **nUMBER OF ASSIGNMENTS & Marks** | **02 Sets & 30 Marks** |

***Please read the below instructions carefully before proceeding further:***

* Learners are instructed to download the IA Question Paper, prepare the answers (Soft Copy), and submit them through Learning Management System (LMS) Portal
* **The last IA assignment submission date (Set-1 & Set-2 in a single file) is reflected in LMS only. This is the last date, and no further extension will be considered.**
* **Assignment submissions are accepted only in .pdf format.**
* Assignments must be **typed** and **formatted** as per the following specifications:
  + Page Margin – 1 inch on all sides
  + Page Orientation – Portrait
  + Page Size – A4
  + Font Family - Times New Roman
  + Font size - 12
  + Alignment - Justified.
* The total page limit shall not exceed 12 pages.
* **Answers for 10-mark questions should be approximately 400-500 words and not more than 200-250 words for 5-mark questions.**
* The average of both assignments’ marks scored by the learner will be considered Internal Assessment Marks.
* Only ONE submission is allowed per assignment.
* Please restrict the assignment document size to <2 MB. Avoid inserting images of very high resolution into the document to remain within the size limit. The assignment response document should NOT contain color images or highlighting of text content.
* Upon successfully submitting IA in LMS, learners can verify the document submitted against each course using the preview tab. If the file submitted has been corrupted or the wrong document submitted, it will not be considered for evaluation.
* If the learner resubmits the assignment, it is permissible only on or before the cut-off date, and the last submission will be considered for evaluation purposes.
* **Content that has been directly copied from the Internet/SLM and Assignments that have been copied and shared among students will be automatically rejected and disqualified.**

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| **Set-I** | | | |
| **Q. No** | **Questions** | **Marks** | **Total Marks** |
| **1.** | Express the following system of equations in matrix form and solve them by the elimination method: | **10** | **10** |
| **2.** | Two APs have the same common difference. The difference between their 100th terms is 100, what is the difference between their 1000th terms? |  | **10** |
| **3.** | In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, 3 read all three newspapers. Find:   1. The number of people who read at least one of the newspapers. 2. The number of people who read exactly one of the newspapers. | **10** | **10** |
| **Set-II** | | | |
| **Q. No** | **Questions** | **Marks** | **Total Marks** |
| **4.** | Show that | **10** | **10** |
| **5.** | In a retail market, fruit vendors were selling mangoes kept in packing boxes. These boxes contained varying numbers of mangoes. The following was the distribution of mangoes according to the number of boxes:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Number of mangoes | 50 – 52 | 53 - 55 | 56 – 58 | 59 - 61 | 62 – 64 | | Number of boxes | 15 | 110 | 135 | 115 | 25 |   Find the mean number of mangoes kept in a packing box. | **10** | **10** |
| **6.** | Explain about walk, Path & Circuit and also define Regular & complete connected graphs. | **10** | **10** |