

**SCHOOL OF COMPUTER SCIENCE AND APPLICATIONS**

**Odd Semester 2024-2025**

**Assignment I**

Programme: PG – MCA Course Code: M23DE0101

Semester: I Course Title: Mathematics for Computer Applications

Section: A Name of the Faculty: Dr. M Vinayaka Murthy

Date of Announcement: 09-01-25

Date of Submission: 17-01-25

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| **Sl.No** | **Assignment Question** | **CO** | | | **PO** | **PSO** |
| 1. |  | **1** | | | **1** | **1** |
| 2 |  | **1** | | | **1** | **1** |
| 3. |  | **1** | | | **1,3** | **1,2** |
| 4 | A total of 1232 students have taken a course in Spanish, 879 have taken a course in French, and 114 have taken a course in Russian. Further, 103 have taken courses in both Spanish and French, 23 have taken courses in both Spanish and Russian, and 14 have taken courses in both French and Russian. If 2092 students have taken at least one of Spanish, French, and Russian, how many students have taken a course in all three languages? | **1** | | | **1,3** | **1,2** |
| 5 | How many integers between 1 and 567 are divisible by 3, 5 and 7? | **1** | | | **1,2** | **1,3** |
| 6 |  | **1** | | | **1,2** | **1** |
| 7 | If A = {1, 2, 3, 4} and R and S are relation of A × A, defined by R = {(1, 2), (1, 3), (2, 4), (4, 4)} and S = {(1, 1), (1, 2), (1, 3), (1, 4), (2, 3), (2, 4)} find RoS, SoR, So(RoS), R2, and S2. | **1** | | | **1,2** | **1** |
| 8 | Let A = {1, 2, 3, 4} and R be a relation defined by set A, i.e., R ⊆ AxA, where R = {(1, 1), (1, 4), (4, 1), (4, 4), (2, 2), (2, 3), (3, 2) (3, 3)}, Show that R is an equivalence relation. | **1** | | | **1,2** | **1,3** |
| 9 | Let A be the set of factor of a particular positive integer m and let ≤ be relation divides. i.e., draw the Hasse diagram for m = 45. | **1** | | | **1,2** | **1,2** |
| 10 | Let X = {1, 2, 3, 4} and R = {x, y} {x ≥ y} Draw the graph of R and also its matrix | **1** | | | **1,2** | **1,3** |
| 11 |  | **1** | | | **1,2** | **1,2** |
| 12 |  | | **1** | **1,2** | | **1,2** |
| 13 |  | | **1** | **1,2** | | **1,3** |
| 14 | Suppose that f is defined recursively by f(0) = 3, f(n + 1) = 2f(n) + 3.  Find f(1), f(2), f(3), and f(4) | | **1** | **1,2** | | **1,3** |



**Subject Teacher H O D Director**