

Delhi Institute of Technology and Management, Sonipat

Assignment No. – I

Subject: Computer Graphics & Multimedia

Time: Submit within 7 days

Subject Code: ETCS-211

Max. Marks: 30

Date: 01-Nov-2021

Note: Attempt any five questions. All questions carry equal marks.

Q 1. Suppose 100 out of 120 Computer Science students study at least one of the following languages: French, German and Russian. It is given that 65 students study French, 45 students study German, 42 students study Russian, 20 students study French and German, 25 students study French and Russian and 15 students study German and Russian. We want to find the number of students who study

1. Only French and German, but not Russian
2. Only French and Russian, but not German
3. Only German and Russian, but not French
4. Only French
5. Only German
6. Only Russian
7. None of the three languages

Q2. If $A = \{4, 9, 16, 25\}$, $B = \{1, 2, 3, 4\}$ and R is the relation "is square of" from A to B , write down the set corresponding to R . Also find the domain and range of R .

Q3. Suppose, there are 21 cricket players in the Indian teams. Out of these, 6 players are taking part in a one-day match, 7 players are taking part in twenty-20 match and 5 players are taking part in both one-day and twenty-20 matches. We want to know how many players are not taking part either in a one-day or in twenty-20 match.

Q4. Can an element be both maximal and minimal. Explain with example?

Q5. Prove that if $(x, y) \in \mathbb{Z}$ (set of integers) such that xy is odd then both x and y are odd.

Q6. Show that the premises 'it is not sunny this afternoon' and 'it is colder than yesterday' we will go swimming only if it is sunny if we do not go swimming then we will take Agra trip and if take Agra trip then we will go home by sunset. Lead to conclusions we will be home by sunset.

Q7. Prove the following statement, if $3n+2$ is odd then n is odd.

Q8. Draw the Hasse diagram representing the partial ordering $\{(a, b) / a \text{ divides } b\}$ on $\{1, 2, 3, 4, 6, 8, 12\}$.

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