KATHMANDU UNIVERSITY

Dulikhel, Kavre

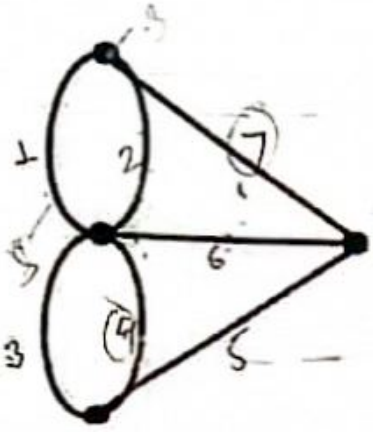
Internal Examination II -2026

Subject: MCSC- 201
Group : CE – II – I

Time : 60 min
F.M. : 20

Attempt all questions.

1. Define equivalent relation. Let R be an equivalent relation on a set A then for each a, b ∈ A, prove that a R b if and only if R(a) = R(b). **[1 +3]**
2. Let A = {a, b, c, d, e, f}. Compute (a, c, e) o (b, f, c) and check the resultant permutation is even or odd. **[3 + 1]**
3. If (A, ≤) and (B, ≤) are two poset. Then show that (A × B, ≤) is poset with partial order ≤ define by (a, b) ≤ (a', b') if a ≤ a' in A and b ≤ b' in B. What are the least and greatest elements of P(S) if S = {1, 4, 6, 8}. **[3 + 1]**
4. Define lattice and complemented lattice. If S is a finite set then prove P(S) is complemented lattice. [2 + 2]
5. Define simple Graph. Find the degree of vertices of following graph and prove that it has no Euler path. **[1 + 1.5+ 1.5]**



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