**United College of Engineering and Research, Allahabad**

**Department of Computer Science & Engineering**

**B.Tech CSE- IV Semester**

**Quiz-2**

**Course Name:** Discrete Structure and Theory of Logic  **AKTU Course Code:**KCS-303

**Time: 20 Minutes Max. Marks: 10**

* **All Questions are compulsory.**
* **All Questions carry one mark.**

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| **Q. No.** | **Questions** | **CO** |
| **1** | A cyclic group is always \_\_\_\_\_\_\_\_\_ A) abelian group B) monoid C) semigroup D) subgroup | **CO2** |
| **2** | A function f:(M,∗)→(N,×) is a homomorphism if \_\_\_\_\_\_ A) f(a\*b) = a \* b B) f(a\*b) = a / b C) f(a\*b) = f(a) + f(b) D) f(a\*b) = f(a) x f(a) | **CO2** |
| **3** | **This is an abelian group { –3 n : n ∈ Z } under?** A. division B. subtraction  C. addition D. multiplication | **CO2** |
| **4** | **What is the inverse of – i If G = { 1, -1, i, – i } is group under multiplication?** A. −1 B. i C. 1 D. None of Above | **CO2** |
| **5** | **The monoid is a ….** A. a non-abelian group B. groupoid C. A group  D. a commutative group | **CO2** |
| **6** | **(**ba**)-1 =\_\_\_\_\_ If a, b are elements of a group G?** A. b-1 a  B. a-1 b C. b-1 a-1 D. a-1 b-1 | **CO2** |
| **7** | **What is the value of (a-1 b)-1 is in the group (G, .)?** A. b-1a B. ab-1 C. ba-1 D. a-1b | **CO2** |
| **8** | **What is the inverse of a , if (Z,\*) is a group with a\*b = a+b+1 ∀ a, b ∈Z?**  A. -2 B. 0 C. -a-2  D. a-2 | **CO2** |
| **9** | **What is the identity element in the group G = {2, 4, 6, 8) under multiplication modulo 10?**  A. 5  B. 9  C. 6  D. 12 | **CO2** |
| **10** | **Which statement is false?** A. The set of rational integers is an abelian group under addition B. The set of rational numbers form an abelian group under multiplication C. The set of rational numbers is an abelian group under addition  D. None of these | **CO2** |

Answer

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| 1-A | 2-D | 3-C | 4-B | 5-A | 6-D | 7- A | 8-C | 9-C | 10-B |