## ASSIGNMENT 1 | | B. TECH I YEAR : 2020-2021 | | S E M E S T E R 2

**Sub: Engineering Mathematics – II (BMAS - 1102)**

1. **1.1 2**
   1. **3**
   2. **3**
2. **2.1 2**
   1. **9**
   2. **12**
3. **3.1 consistent and solution is x=-1, y=0, z=2.**
   1. **consistent and rank<no. of variable so it has infinitely many solutions.**
   2. **since rank of A is not equal to rank of aug(A) so it is inconsistent.**
4. **(i) a = 5, b ≠ 9**

**(ii) a ≠ 5, b ≠ 9**

**(iii) a = 5, b = 9**

1. **Rank of A can only be equal to Rank of aug(A) when a+b+c = 0. So the system will have no solution unless a+b+c = 0. It has infinite number of solutions.**
2. **6.1 Infinite number of solutions.**
   1. **Infinite number of solutions.**
4. **8.1**
5. **9.1 Hermitian matrix**
   1. **Skew-Hermitian matrix**
   2. **Unitary matrix**
6. **Given : A=A\* B=B\***

**To Proof : -(AB-BA)\* = (AB-BA)**

**-(AB-BA)\* = -((AB)\*-(BA)\*)**

**-(B\*A\* - A\*B\*)**

**-(BA – AB)**

**(AB – BA)**