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| **GOVERNMENT OF KARNATAKA** | | | | | | | |
| **DEPARTMENT OF COLLEGIATE AND TECHNICAL EDUCATION** | | | | | | | |
| **GOVERNMENT POLYTECHNIC , SUNKADAKATTE , HONNALI, DAVANAGERE (District)** | | | | | | | |
| **Test Date and Time : 22/11/2022** | | **Semester/Year** | **Course/Course Code** | **Max. Marks** | | | |
| ⅠI test | | Ⅲ Sem | **BIO ENERGY** | 30 | | | |
| 12.30 PM TO 1.50 PM | | 2022-23 | **20AE34P** |
| Name of Course coordinator: **BHEEM NAIK K** | | | Department :  **Alternate Energy Technology. (AE)** | | | | |
| Question No. | Answer any Three full questions | | | | CL | CO | PO |
| 1 | a). define biomass and list the sources of biomass (5marks)  b). explain production of biomass by photosynthesis process (5marks) | | | | R, U R | 1  1 | 3 |
| 2 | a). explain carbon cycle (5marks)  b).what are the advantages, disadvantages and applications of biomass (5marks) | | | | U, A R | 1  1 | 3 |
| 3 | a). write flow chat of biomass conversation process or techniques (5marks)  b).define thermochimical process it's types and it's byproducts (5marks) | | | | R, U R | 1  2 | 3 |
| 4 | a. i.. define combustion ...( 2marks)  ii. List the zones of Gasification process... (3 marks)  b. sketch and explain Updraught gasifier (5marks) | | | | U,A  R | 2  2 | 3 |

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| **Test Date and Time : 22/11/2022** | | **Semester/Year** | **Course/Course Code** | **Max. Marks** | | | |
| ⅠI test | | Ⅲ Sem | **THERMAL ENGINEERING** | 30 | | | |
| 12.30 PM TO 1.50 PM | | 2021-22 | **20AE32P** |
| Name of Course coordinator: **BHEEM NAIK K** | | | Department :  **Alternate Energy Technology. (AE)** | | | | |
| Question No. | Answer any Three full questions | | | | CL | CO | PO |
| **PART A** | Answer any 3 from part A  1.Define system and explain it's types with example  2. Define property and explain it's types with example  3.state and explain zeroth and first law of thermodynamics  4.state and explain second law of thermodynamics  5.define heat and work with their sign convention | | | | R, U R | 1  1 | 3 |
| **PART B** | Answer any 3 from part B  1.state and explain Boyles law and charles law  2.define any 5 psychometric terms  3.explain sensible write heating and Humidification  4.derive characteristic gas equation...  5.write the equation of  Boyles law  Charles law  Gay Lussacs law  Avogadro s law  Combined gas law | | | | U, A R | 1  1 | 3 |