Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec– 2018**

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| **Code :** | **17ME3038** | **Duration :** | **3hrs** |
| **Sub. Name :** | **NUCLEAR POWER ENGINEERING** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Explain theEnergy from Nuclear Reactions and nuclear fission process with help of neat sketch. | CO 1 | 20 |
| (OR) | | | | |
| 2. | a. | Define half-life and explain the procedure for measuring the Half-life. | CO1 | 10 |
| b. | Describe in detail about Neutron Life cycle. | CO 1 | 10 |
|  |  |  |  |  |
| 3. |  | Describe the heat flow in and out of solid fuel element and explain the temperature variations across fuel elements. | CO 2 | 20 |
| (OR) | | | | |
| 4. |  | Explain the void fractions in flow and non-flow systems. And describe the heat removal in solids subjected to radiation. | CO 2 | 20 |
|  |  |  |  |  |
| 5. |  | Describe in detail about fluidized Bed Reactorand explain the boiling water reactor hydraulics. | CO 3 | 20 |
| (OR) | | | | |
| 6. |  | Define nuclear reactor. And explain about pebble bed reactors corrosion and erosion characteristics. | CO 4 | 20 |
|  |  |  |  |  |
| 7. |  | Define nuclear fusion. Describe in detail about energy from nuclear fusion and Thermonuclear Fusion. | CO 5 | 20 |
| (OR) | | | | |
| 8. |  | Describe in detail about D-T Reaction and P-P Reaction. | CO 5 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | What is safety systems? What are the changes and consequences of an accident. And write short notes on nuclear plant safety. | CO 6 | 20 |