**BSA5**

**Third Semester B. Tech Aeronautics Engineering**

**Examination Aug/Sep-2015**

**Control System**

**Time:-3Hours Max. Marks: - 75**

**SECTION-A**

**Answer any five questions. (5\*5)**

1. What are the requirements of Automatic Control Systems?
2. Define the Manson’s Gain Formula.
3. Give a brief introduction about the basic Principles of feedback Control.
4. Write a short note on Time Domain Analysis and Frequency Response.
5. For a unity feed back system whose open loop transfer function is G(s) = 50 / [(1+0.1s) (1+2s), find the position, velocity and acceleration error constants.
6. Mention various types of Electronic Amplifiers.
7. What are the Frequency Domain Specifications?

**SECTION-B**

**Answer any two questions. (10\*2)**

1. A servo system for the position control of a rotatable mass is established by viscous friction damping which is three – quarters of that is needed for critical damping. The Undamped natural frequency of the system is 12 Hz. Derive the expression for the output the system, if an input control is suddenly moved to a new position, being initially at rest. Hence find the maximum overshoot.
2. Elaborate the Steady –State Accuracy of the feedback Control.
3. Discuss the Zero-Input Stability in detail.

**SECTION-C**

**Answer any two questions. (15\*2)**

1. Explain the following in detail:
2. Stability Margin
3. Gain Margin
4. Phase Margin
5. Elaborate the Static accuracy. Mention the various methods used for determining the accuracy of the system.
6. Write a detail note on Root Locus.