2. Explain the following terms :

(a) State equation

(b) Eigenvalues and Eigenvectors

(c) Properties of State Transition Matrix.

3. Discuss in details about the obsrvability canonical form. How the observability of linear systems can be assessed ?

4. Discuss in detail about the dynamic response charactersitics of pupil control system. Also explain the phenomena of automatic aperture control.

5. What do you mean by thermoregulation of cold bloodedness and warm bloodedness ? Explain the anatomy of thermoregulation.

6. Elaborate the urea distribution model in details.

7. Explain the receptors characteristics, perceived intensity along with formulation of transfer function of receptors.

8. Discuss the cardiovascular control system with diagram.

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H-102

B. Tech. EXAMINATION, May 2017

(Eighth Semester)

(Main & Re-appear)

BME

BME-404-B

BIOLOGICAL CONTROL SYSTEM

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Define State Variables. Explain the matrix representation of state equations. Also discuss the relationship between state equations and higher order differential equations.