Code :R5321103

R5

III B.Tech II Semester(R05) Supplementary Examinations, April/May 2011
BIOLOGICAL CONTROL SYSTEMS
(Biomedical Engineering)

Time: 3 hours Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1. Draw a generalized feedback control system. Label all variables and components and explain.
2. (a) Define transient and steady state condition of a control system. How laplace transform is more suitable for its analysis.
   (b) Discuss the four basics standard test signals for time response analysis with relevant figures and mathematical expressions.
3. Sketch Bode plot for $G(S) = \frac{100(S+2)}{S(S+5)(S+10)}$.
4. Explain the pupil control system, giving its flow diagram.
5. Describe the position and velocity servomechanism and receptor dynamics of skeletal muscle.
6. Explain Chemical regulation of Ventilation.
7. Discuss the factors influence on the regulation of blood glucose levels.
8. (a) Write in detail about the human operator models.
   (b) Explain about the human operator tracking characteristics.

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