

SANT GADGE BABAB AMRAVATI UNIVERSITY, AMRAVAATI
BACHELOR OF ENGINEERING SEMESTER VII(CGS) EXAMINATION OF S-2020

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H.V.P.Mandal's College of Engineering and Technology, Amravati
Department of Mechanical Engineering

Academic Session:2019-20

Semester:VI

Unit- I,II,III,IV,V,VI

Date:29/10/2020

Subject Name : Control System Engineering

Subject Code : 6ME03

Max Marks:20

Solve any Two Questions out of Four Questions

All Questions carry equal marks

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|-------------|-----------|---|----------|
| Q.1) | a) | What is control system? And its application. | 1 |
| | b) | What are the different types of industrial controller? | 1 |
| | c) | Explain transient response specification with neat sketch. | 2 |
| | d) | Explain Rough-Hurwitz criteria. | 2 |
| | e) | Explain the term 1)rise time 2)pick time | 2 |
| | f) | Sketch field control servo meter with its block diagram | 2 |
| | | | ... |
| Q.2) | a) | Explain overall transfer function with step wise procedure. | 2 |
| | b) | List out advantages and disadvantages of hydraulic system. | 2 |
| | c) | Explain term natural response and settling time. | 1 |
| | d) | What is stability of control system by Routh's stability criteria? | 1 |
| | e) | Explain term 1)pick overshoot 2)crossover frequency | 2 |
| | f) | Sketch speed control system for the steam turbine. | 2 |
| | | | ... |
| Q.3) | a) | Distinguish between open loop and close loop control system. | 1 |
| | b) | Draw block diagram of hydraulic propositional plus integral controller | 1 |
| | c) | Explain static error coefficient. | 2 |
| | d) | Explain open loop transfer function. | 2 |
| | e) | Explain gain margin and phase margin. | 2 |
| | f) | Sketch and explain transverse feed control system used inn machine tool. | 2 |
| | | | ... |
| Q.4) | a) | Distinguish between linear and nonlinear control system. | 2 |
| | b) | Explain industrial controller. | 1 |
| | c) | Design specification for second order system. | 2 |
| | d) | Explain necessary condition for stability. | 1 |
| | e) | Define gain crossover frequency and phase crossover frequency | 2 |
| | f) | Sketch the working of speed control system for diesel engine. | 2 |
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