SANT GADGE BABAB AMRAVATI UNIVERSITY, AMRAVAATI

Summer Examination 2020(Backlog)

HVPM'S College of Engineering and Technology, Amravati

Department of Mechanical Engineering

Subject: Control System Engineering (6ME03) **Semester: 6th**

ASSIGNMENT

Solve any Two out of Four Questions

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