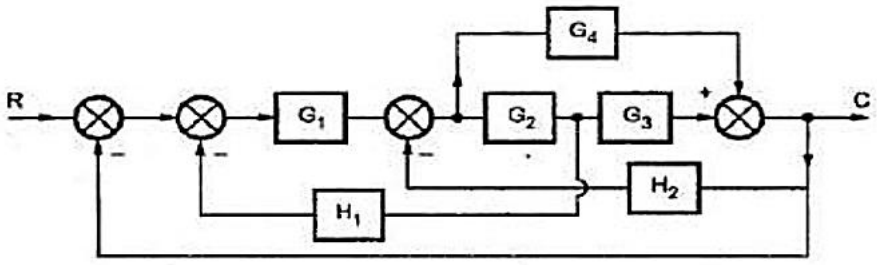
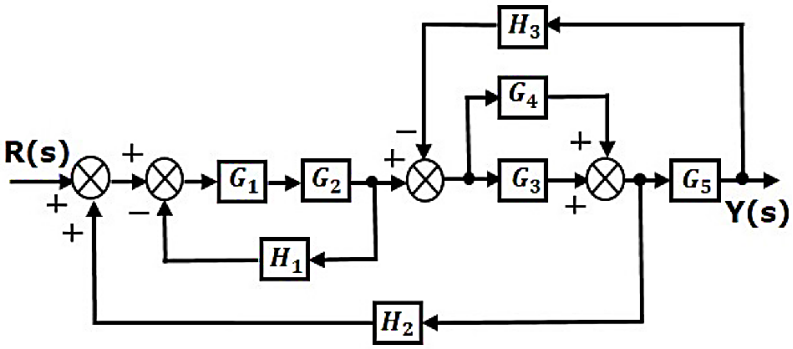
Digital Assignment-1

Subject: Control Systems **Subject Code: BECE302L** **Faculty: Dr. Ashis Tripathy**

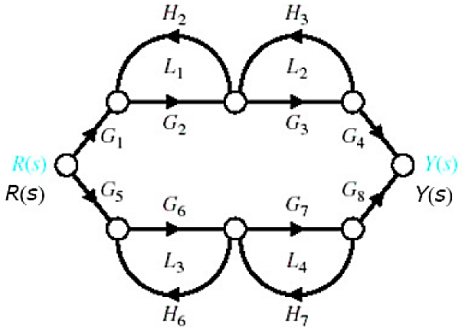
1. **Using Block diagram reduction technique find the Transfer Function of the system given below.**



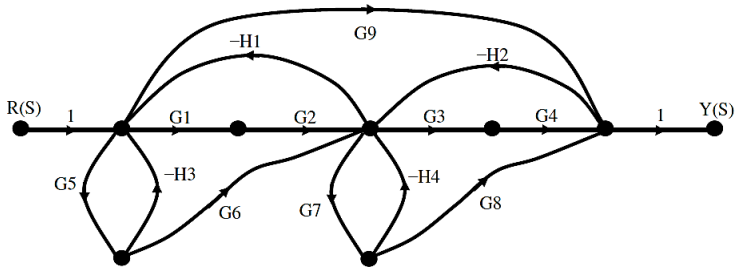
2. **Consider the block diagram shown in the following figure. Let us simplify (reduce) this block diagram using the block diagram reduction rules.**



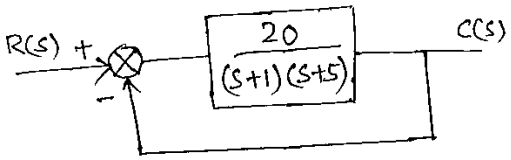
3. **Find the Transfer Function Y(s)/X(s) for the figure shown below**



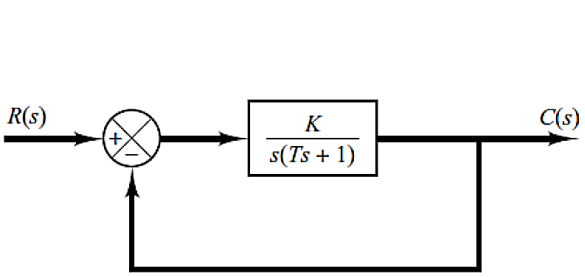
4. **For the control system whose signal flow graph is shown below, using Mason's formula, find the system transfer function Y(s)/R(s).**



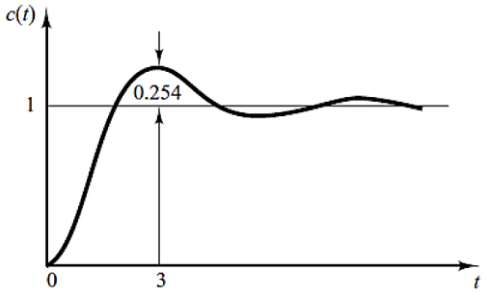
5. **For the given system is shown below determine W_n, ξ, W_d, t_p, % M_p, the time at first overshoot occurs, time period of oscillation.**



6. **When the system shown in figure (a) is subjected to a unit-step input, the system output responds as shown in figure (b) . Determine the values of K and T from the response curve.**



(a)



(b)