

specification.

No. of Printed Pages : 4

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Q.31 Explain Routh's Hurwitz criterion.

Q.32 Define root locus.

### SECTION-D

**Note:** Long answer type questions. Attempt any three questions. (3x10=30)

Q.33 Illustrate the difference between linear and non linear system.

Q.34 How an op-amp works.

Q.35 Explain working and applications of magnetic amplifier.

Q.36 Define Automatic control system.

### Subject : Basic Control Systems

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.1 Define control system.

Q.2 Define feedback.

Q.3 Write Mason's gain formula.

Q.4 Close loop system Consists of feedback (True/False)

Q.5 Draw the symbol of comparator.

Q.6 Define close loop.

Q.7 The system  $\left(\frac{1}{s^2} + 1\right)$  have order\_\_\_\_\_.

Q.8 A node having only incoming branch calls\_\_\_\_\_.

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Q.9 Linear system follow \_\_\_\_\_ principle.

Q.10 Define system.

### SECTION-B

**Note:** Very Short answer type questions. Attempt any ten questions out of twelve questions. (10x2=20)

Q.11 Define open loop

Q.12 Define ampeldyne.

Q.13 List two advantages of close loop system.

Q.14 Describe order of the system.

Q.15 Define path.

Q.16 Define non touching loops

Q.17 Define rise time. ( $t_r$ )

Q.18 Describe Steady state error.

Q.19 Define stability.

Q.20 Define poles and zero's

Q.21 Define k.

Q.22 No of branches=\_\_\_\_\_.

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### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

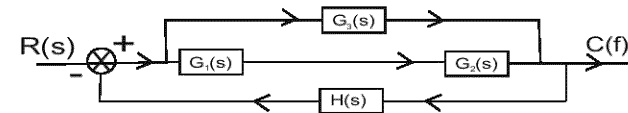
Q.23 Differentiate between open loop system and close loop system.

Q.24 Explain transfer function.

Q.25 Describe linear system.

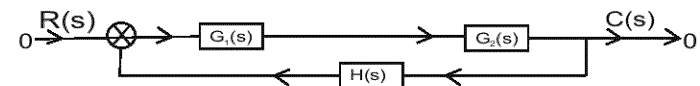
Q.26 Explain block diagram reduction method with an example.

Q.27



Solve the diagram with block diagram reduction method.

Q.28



Solve the diagram with mason's gain formula.

Q.29 Explain parabolic function.

Q.30 Write down any three time response

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