



SE-6821

B. E. III (Sem. V) (IC) Examination

April / May – 2011

Control System Components

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दशांशके निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. III (Sem. V) (IC)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Control System Components"/>	<input type="text"/>
Subject Code No. : <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="2"/> <input type="text" value="1"/>	Section No. (1, 2,.....) : <input type="text" value="1&2"/>
Student's Signature	

- (2) Attempt all questions.
- (3) Figure to the **right** indicates marks.
- (4) Answers to the **two** sections must be written in same answer book.

SECTION-I

- 1 (a) Answer the following question briefly. 10
 - (i) Define circular pitch of gear. 2
 - (ii) What is bevel gear ? 2
 - (iii) Write down the application of cam and follower. 2
 - (iv) What is gyroscopic torque ? 2
 - (v) Write down the application of stepper motor. 2
- (b) Define potentiometer. Explain any two types of them ? 8

- 2 (a) Draw the neat diagram of electromagnetic relay and explain its construction and working. 8
- (b) What is the difference between cams and follower ? 8
Which are the different types of cams ? Explain any two of them.

OR

- 2 (a) What is gear train ? Give their classification and explain any two of them. 8
 (b) Define gyroscope. State two basic principle of gyroscope and explain any one type of gyroscope. 8
- 3 Attempt any **two** of the following : 8×2=16
 (a) Types of gear
 (b) Solid state relay
 (c) Application of gyroscope.

SECTION : II

- 4 (a) Answer the following question briefly.
 (i) Write down the drawbacks of DC tachometer. 2
 (ii) What is Synchro ? 2
 (iii) What are the major advantages of stepper motor ? 2
 (iv) Give the application of magnetic amplifier. 2
 (b) Draw the diagram of synchro as transmitter and receiver. And explain its working. 10
- 5 (a) Explain any two mechanical Tacho generator. 8
 (b) Explain variable reluctance stepper motor construction and its principle in detail. 8

OR

- 5 (a) Explain the concept of amplidyne field. 8
 (b) Explain the basic principle of AC Tacho generator. 8
 Also give its advantages.
- 6 Attempt any two of the following : 8×2=16
 (a) Permanent magnet stepper motor
 (b) Pneumatic relay
 (c) Explain flapper nozzles system. Also give its application.