Code No: K0225 **R07** **Set No. 1**

IV B.Tech. II Semester Regular Examinations, Apr/May 2013

PROGRAMMABLE LOGIC CONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1. Explain about the I/O modules and interfacing and the devices connected to I/O modules?

2. Explain the operational procedures in PLC programming.

3. What are the different types of logic gates explain them briefly.

4. a) Explain in brief about analog modules and systems?
   b) What are the characteristics of registers?

5. Explain the difference between number comparison functions and number conversion functions?

6. Explain about the functions with examples and applications.
   a) Jump
   b) FIFO
   c) Sweep

7. a) Discuss about the Bit Pattern in PLC?
   b) Write the applications of Matrix functions and sequence functions?

8. a) Explain in detail about purpose of analog signal processing and multi bit data processing?
   b) Discuss about PID modules?

Code No: K0225 **R07** **Set No. 2**

IV B.Tech. II Semester Regular Examinations, Apr/May 2013

PROGRAMMABLE LOGIC CONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss the construction of plc ladder diagrams?

2. With examples explain PLC programming using contacts and coils?

3. With an example explain the programming in the Boolean algebra system also explain the conversion examples.

4. a) Mention the applications of analog signal processing and multi bit data processing?
   b) Explain about holding registers? What are its applications?

5. What are the types of PLC functions? Explain them briefly.

6. What are the types of data handling functions? Explain them with its applications.

7. a) Explain about changing a bit shift register?
   b) Define Bit pattern?

8. Write short notes
   a) Analog signal processing
   b) Multi bit Data processing

Code No: K0225 **R07** **Set No. 3**

IV B.Tech. II Semester Regular Examinations, Apr/May 2013

PROGRAMMABLE LOGIC CONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What are the salient features of
   a) Plc system
   b) CPU Processor

2. Briefly explain Drill press operation?

3. With a neat sketch explain the construction of ladder diagrams?

4. a) Discuss about PLC Registers and write their applications.
   b) Explain in detail about module addressing mode?

5. a) Explain the industrial applications of timer functions.
   b) What are Arithmetic functions? Explain them.

6. Explain about the functions with examples and applications.
   a) FAL
   b) ONS
   c) CLR

7. Give the importance of Matrix functions and sequence functions in PLC?

8. Explain briefly about
   a) PID modules
   b) PID principles

Code No: K0225 **R07** **Set No. 4**

IV B.Tech. II Semester Regular Examinations, Apr/May 2013

PROGRAMMABLE LOGIC CONTROLLERS

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. a) Explain briefly about which type of task might a control system handle?
   b) Define PLC. Mention the advantages of PLC?

2. What are the input instructions in PLC programming and also explain the outputs in PLC programming?

3. Draw and explain the flow chat of spray process system.

4. Explain in briefly about input registers, output registers and holding registers?

5. Write short notes on counters and counter function industrial applications?

6. Explain about the functions with examples and applications.
   a) Master control relay
   b) SKIP
   c) Move

7. Explain in detail about controlling of two-axis & three axis Robots with PLC?

8. a) Give some examples on the applications of analog output?
   b) Explain about the PID functions.