

**SARDAR PATEL UNIVERSITY**

[A-89]

T.Y.B.Sc. Electronics  
SEMESTER – VI, April 2016  
Industrial electronics -II  
SUB CODE: US06CELE05

DATE: 6<sup>TH</sup> April 2016  
DAY: Wednesday

TIME: 02:30 PM TO 5:30 PM  
TOTAL MARKS: 70

**Q. 1 Choose the correct answer.**

[10]

- (1) Dual converter consist of \_\_\_\_\_ .
 

(A) Thermister	(C) Amplifier & rectifier
(B) Inverter & rectifier	(D) none of above
- (2) Power controlling done by \_\_\_\_\_ .
 

(A) Rectification	(C) Amplification
(B) Phase control	(D) None of above
- (3) B2 and B6 is \_\_\_\_\_ type of configuration.
 

(A) Half-wave	(C) Full-wave
(B) Bridge	(D) None of above
- (4) Single phase bridge control circuit consist of \_\_\_\_\_ SCRs.
 

(A) 2	(C) 4
(B) 6	(D) None of above
- (5) For the speed reversal of DC motor drive \_\_\_\_\_ is used.
 

(A) Dual converter	(C) Full-wave phase control circuit
(B) Chopper	(D) None of above
- (6) A large value of inductor in bridge circuit results in \_\_\_\_\_ in the load.
 

(A) Discrete current	(C) Continues current
(B) Very high current	(D) None of above
- (7) PLC used for \_\_\_\_\_ .
 

(A) Logical control	(C) Voltage control
(B) Current control	(D) None of above
- (8) Freewheeling diode used in \_\_\_\_\_ .
 

(A) Phase control circuit	(C) Type A chopper
(B) Type B chopper	(D) None of above
- (9) Type A chopper consist of \_\_\_\_\_ chopping network.
 

(A) 1	(C) 4
(B) 8	(D) 3
- (10) Half control bridge circuit used for \_\_\_\_\_ .
 

(A) Multiplying power	(C) Improving power factor
(B) Increasing controlling efficiently	(D) None of above

- Q.2 Answer the following.(attempt ten) [20]**
- (1) What is phase control?
  - (2) State function of dual converter.
  - (3) State a principle of step up chopper.
  - (4) Why power controlling is needed?
  - (5) Define chopper.
  - (6) What do you mean by snubber circuit?
  - (7) State merits and de-merits of half control bridge circuit.
  - (8) Which principle is used in speed control of motor? State it.
  - (9) State the application of PLC.
  - (10) State the application of chopper.
  - (11) Differentiate between type A and B chopper.
  - (12) List different section of PLC.
- Q.3 Draw the necessary diagram of dual converter; explain functional mechanism and principle of it. [10]**
- OR**
- Q.3 Explain different version of full wave phase control circuit. [10]**
- Q.4 Draw a circuit diagram of step up chopper and discuss its working with wave forms. [10]**
- OR**
- Q.4 Explain the principle of chopper operation with necessary circuit diagram and waveform in detail. [10]**
- Q.5 Discuss the functional mechanism and principle of type B chopper with necessary diagram. [10]**
- OR**
- Q. 5 Discuss type A chopper with necessary diagram and wave forms. [10]**
- Q. 6 Discuss the different terms and terminologies used in operation of PLC. [10]**
- OR**
- Q. 6 Draw the block diagram of PLC system and discuss functional of all sections of it. [10]**

-: End:-