



2018 VI 13

1430

Seat No. :

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Time : 2 Hours

INDUSTRIAL ELECTRONICS AND INSTRUMENTATION

Subject Code

V	3	3	4
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Total No. of Questions : 5

(Printed Pages : 2)

Maximum Marks : 50

- INSTRUCTIONS:** 1) Answer **each** question on a **fresh page**.
2) Write the no. of question and sub. question **clearly**.
3) **All** questions are **compulsory**.
4) Figure to the **right** indicate **full** marks.
5) **Draw** the diagram **wherever** necessary.

1. A) Fill in the blanks : (1×2=2)
i) The percentage change in output voltage with respect to change in line voltage is _____
ii) Another name of Permanent Magnet Moving Coil (PMMC) movement is _____
- B) Answer the following : (3×2=6)
i) Draw the block diagram of CRO and explain the function of CRT and power supply in it.
ii) With the help of neat diagram, explain working of fan regulator circuit constructed using diac and triac.
- C) Answer the following : (2×1=2)
i) Explain the AC voltage measurement using CRO.
2. A) Define the following : (1×2=2)
i) Motor.
ii) Electronic timers.
- B) Answer the following : (3×2=6)
i) State the function of pin No. 2, 5, and 7 in Timer IC NE 555.
ii) State any three points of comparison between LED and LCD.
- C) Answer the following : (2×1=2)
i) State any four advantages of electronic timers over mechanical timers.



3. A) Fill in the blanks : **(1×2=2)**
- i) Frequency range of AF signal generator is _____
 - ii) An electric instrument that can be used to measure ac current without connecting it in the circuit is called _____
- B) Answer the following : **(3×1=3)**
- i) With a neat diagram, explain the working of capacitive transducer.
- C) Answer the following : **(5×1=5)**
- i) With the help of block diagram, explain working of ECG and state the use of the same.
- OR
- ii) With the help of block diagram, explain working of Metal detector and state the use of the same.
4. A) Answer the following in **one** word/sentence : **(1×2=2)**
- i) State the use of +ve voltage regulator IC LM7815.
 - ii) What technique is used to extend the range of voltmeter ?
- B) Answer the following : **(3×1=3)**
- i) With the help of diagram, explain the working of piezo electric transducer.
- C) Answer the following : **(5×1=5)**
- i) With the help of neat labeled diagram, explain the construction of DC motor.
- OR
- ii) With the help of neat labeled diagram, explain the working of two point starter.
5. Answer the following : **(2×5=10)**
- i) Draw the construction diagram of photo transistor and state any two applications of it.
 - ii) With the help of neat dig. explain Hall effect.
 - iii) State one point of difference between oscillator and signal generator.
 - iv) With the help of diagram, explain range extension of an ammeter.
 - v) With the help of block diagram, explain working of converter.