



C-20-AEI-405

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BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

DAEI - FOURTH SEMESTER EXAMINATION

INDUSTRIAL ELECTRONICS

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Sketch the ISI circuit symbols of SCR, SCS and SBS.
2. State the different modes of TRIAC triggering.
3. Draw the V-I characteristics of DIAC.
4. List the applications of photo-diode.
5. State voltaic effect.
6. List the properties of ultrasonics.
7. List the applications of Induction Heating.
8. List the dielectrics used for dielectric heating.
9. State the principle of inverter.
10. List the applications of SMPS.

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PART—B

8×5=40

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain the construction and working of UJT.

(OR)

(b) Explain SCR triggering using UJT.

12. (a) Explain the working of seven segment displays– Dot matrix.

(OR)

(b) Explain the working of Bar-matrix-Bar-graph.

13. (a) Explain the principle of Induction Heating and mention its merits.

(OR)

(b) Draw the circuit HF power source for Induction Heating and explain its working.

14. (a) Explain the working of voltage source inverter.

(OR)

(b) Explain the working of PWM inverter.

15. (a) Explain the working of Offline UPS.

(OR)

(b) Explain the working Online UPS.

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PART—C

1×10=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

16. Draw and explain overvoltage protection circuit using SCR.

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