C–1609	Sub. Code
	82346

B.Voc. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Industrial Automation

DIGITAL ELECTRONICS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the purpose of NAND logic gates?
2. What is tristate gate?
3. What is BCD adder?
4. Compare encoder and decoder.
5. What is latches?
6. List the registers in circuit design.
7. What is PLA?
8. What do you mean by memory cycle?
9. Classify the circuit model.
10. What is pulse mode circuit?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the Boolean expression.

Or

(b) Explain the sum of product (SOP).

12. (a) Explain the circuit design procedure.

Or

(b) Explain the parallel binary subtractor.

13. (a) Give the characteristics of slave table and equations.

Or

(b) Explain the edge and level triggering.

14. (a) Explain the ROM organisation.

Or

(b) Discuss the memory decoding and expansion procedure.

15. (a) Explain the algorithmic state machine.

Or

(b) Describe the pulse mode circuits.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) State the De-Mogan' s theorem.

Or

(b) Explain the minimization technique and logic gates in detail.

17. (a) How to develop combinational circuits and the procedure?

Or

(b) Explain the procedure for sequential circuit implementation.

18. (a) Discuss the Field programmable gate array procedure and implementation.

Or

(b) Write the simple HDL code for the circuit for implementation.

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C–1611	Sub. Code
	82362

B.Voc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Industrial Automation

INDUSTRIAL SAFETY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Give the safety rules in industry.
2. How to inspect the turning machine after shutdown?
3. Give the policy for ZMS.
4. What is positional control guard?
5. Compare welding and cutting.
6. How to inspect the gas pipeline in industry?
7. What are safety measures in cold farming?
8. What is hot working metal industry?
9. What is sand blasting?
10. What is hydro testing?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the CNC machine operations.

Or

(b) Explain the maintenance operation in grinding machine.

12. (a) Discuss the safety precautions in milling machines.

Or

(b) Explain the procedure to select and suitability of guard in drilling operations.

13. (a) Explain the hazards involved in welding and cutting operations.

Or

(b) Explain the storage and handling of gas cylinder.

14. (a) Discuss the power press operations.

Or

(b) Explain the auxiliary mechanisms involved in hot working of metals.

15. (a) Describe the heat treatment operations.

Or

(b) Explain the safety in inspection and testing.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the role of safety engineer in industries.

Or

(b) Explain the safety rules and procedure followed in turning machine.

17. (a) Explain the principle of machine guarding in detail.

Or

(b) Explain the personal protective equipment used in metal farming industries.

18. (a) Explain the role of safeguard in hot rolling mill for gas furnace operations.

Or

(b) Explain the health and welfare measures in engineering industries.

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