C–7542	Sub. Code 82316

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

First Semester

Industrial Automation

MANUFACTURING TECHNOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define- Core making.
2. List out the few casting defects.
3. Point out the classification of welding processes.
4. What is Thermit welding?
5. State the advantage of Horizontal milling machine.
6. What is CNC machine?
7. List out the different types of plastics.
8. Point out the processing of Thermosets.
9. Define-Rolling.
10. What is wire drawing?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly explain about the types of casting.

Or

(b) Give a short note on investment moulding.

12. (a) Describe about resistance welding.

Or

(b) Differentiate between electron beam welding and laser beam welding.

13. (a) Briefly outline about Abrasive jet machining.

Or

(b) Give a short note on cylindrical grinding machine.

14. (a) Describe about film blowing.

Or

(b) Point out the advantage of injection moulding.

15. (a) Briefly Write about Metal forming.

Or

(b) Write a short note on Extrusion.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about Procedure to make sand mould.

Or

(b) Describe about soldering and brazing.

17. (a) Enumerate the functions of Capstan and Turret lathe.

Or

(b) Narrate about typical industrial application.

18. (a) Explain in detail about principles of Powder metallurgy.

Or

(b) Explain about Plasma arc machining.

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C–7543	Sub. Code
	82333

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022.

Third Semester

Industrial Automation

DIGITAL LITERACY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define - Digital Literacy.

2. List out any two operating system.

3. Point out the few internet based learning platforms.

4. What is smart phone?

5. State the benefits of using internet.

6. What is internet based learning?

7. List out the characteristics of social network.

8. Point out the advantage of Emails.

9. Define-Cybercrimes.

10. What is Network transactions?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly write about basics operations of computer.

Or

(b) Give a short note on importance of Power point presentation.

12. (a) Describe about role of you tune for learning.

Or

(b) Differentiate between internet based learning and digital learning.

13. (a) Briefly write about importance of google for learning requirements.

Or

(b) Using smart phone to become smart- Justify.

14. (a) Describe about nature of online interviews.

Or

(b) Point out the advantage of applying for jobs through online.

15. (a) Briefly explain about Digital Security.

Or

(b) Write a short note on digital safety guidelines.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about present perspectives of digital learning.

Or

(b) Explain about best practices for securing online transactions.

17. (a) Enumerate the different online learning platforms.

Or

(b) Narrate about guidelines for protecting a computer.

18. (a) Explain in detail about advantage and disadvantage of social media.

Or

(b) Explain about different online threats.

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C–6298

Sub. Code
82346

B.Voc. DEGREE EXAMINATION, APRIL 2022

Fourth Semester

Industrial Automation

DIGITAL ELECTRONICS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. State the Boolean laws.
2. Write a note on Karnaugh map minimization.
3. What is mean by magnitude comparator?
4. Draw the circuit of full adder.
5. Mention about ring counter.
6. Write a note on serial adder.
7. Expand EAPROM.
8. What is PAL?
9. What is pulse mode circuits?
10. Expand VERILOG.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss about the multilevel gate implementations.

Or

(b) Write a note on

(i) Sum of products (SoP)

(ii) Product of sums (PoS).

12. (a) Explain the working of full adder.

Or

(b) Write a note on serial adder/subtractor.

13. (a) Discuss about the modulo-n counter.

Or

(b) Write a note on

(i) Edge triggering

(ii) Level triggering.

14. (a) Explain the dynamic RAM cell.

Or

(b) Discuss the memory decoding and memory expansion.

15. (a) Explain the use of algorithmic state machine.

Or

(b) Explain the design of hazard free switching circuits.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the exclusive – OR and Exclusive – NOR implementations of logic functions using gates.

Or

(b) Clearly explain the fast adder and carry look ahead adder.

17. (a) Elaborate the design of synchronous counters with diagram and table.

Or

(b) Write a note on

(i) Shift register counters

(ii) Shift counters

(iii) Sequence generators.

18. (a) Explain clearly the static RAM cell and Bipolar RAM cell.

Or

(b) Explain the design of fundamental mode and pulse mode circuits.

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C–7544	Sub. Code
	82357

B.Voc. DEGREE EXAMINATION, NOVEMBER 2022.

Fifth Semester

Industrial Automation

MICRO ELECTRO MECHANICAL SYSTEMS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is MEMS?
2. What is meant by sensor?
3. Define torsional deflection.
4. Why micro fabrication is done?
5. Write a note on comb drive devices.
6. What is Micro grippers?
7. Define Thermal Sensing.
8. What is Thermal Expansion?
9. What is Piezoelectric effect?
10. What is polimide?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write short note on silicon based MEMS processes.

Or

(b) Write short note on intrinsic characteristics of MEMS.

12. (a) Write short note on Inter Digitated finger capacitor.

Or

(b) Discuss about Micro Magnetic components.

13. (a) Discuss about the stress analysis of mechanical elements.

Or

(b) Write about the applications to inertia.

14. (a) Write about dry etching of silicon.

Or

(b) Write about Isotropic wet etching.

15. (a) Write about parylene and fluorocarbon.

Or

(b) Discuss about actuators for active optical MEMS.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the review of Electrical and Mechanical Concepts in MEMS.

Or

(b) Explain about thermal couple, Thermal Resistor and Thermal Bimorph.

17. (a) Explain about Piezoresistive sensors and Piezoelectric sensors.

Or

(b) Explain the assembly of 3D MEMS and foundry process.

18. (a) Explain about silicon anisotropic etching and anisotropic wet etching.

Or

(b) Explain about striction anti striction methods.

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C–6300	Sub. Code
	82362

B.Voc. DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Industrial Automation

INDUSTRIAL SAFETY

(2019 onwards)

Duration: 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define - Milling machine.
2. List out the process of wood working.
3. Point out the few policy for ZMS.
4. What is machine guarding?
5. State the few common hazards.
6. What is pipe line safety?
7. List out the operation of hot rolling mill operation.
8. Point out the functions of power press electric controls.
9. Define-Electro plating.
10. What is dynamic balancing?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write about general industrial safety rules.

Or

(b) Give a short note on boring machines.

12. (a) Describe about Zero Mechanical State.

Or

(b) Differentiate between automatic guard and trip guard.

13. (a) Describe about personal productive equipment.

Or

(b) Write a short note on safety precautions in brazing.

14. (a) Describe about feeding and cutting mechanism.

Or

(b) Point out the process of safety in forging.

15. (a) Write about industrial waste disposal.

Or

(b) Write a short note on hydro testing.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about safety measures in metal working machinery.

Or

(b) Explain about storage and handling of gas cylinders.

17. (a) Enumerate about the different types of guards.

Or

(b) Differentiate between cold working and cold framing.

18. (a) Explain in detail about health and welfare measures in engineering industry.

Or

(b) Explain about planning machine and grinding machine.

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C–7013	Sub. Code
	16/17/23/25/ 26/27/29

COMMON FOR ALL U.G DEGREE COURSES
EXAMINATION, NOVEMBER 2022

First/Second Semester

ENVIRONMENTAL STUDIES

(2019/2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Nonrenewable resources
2. Ecosystem
3. Food Chain of forest ecosystem.
4. Pandemic Emergencies.
5. Red Data Book
6. Hot spots
7. Climate Change
8. Deforestation
9. Biodiversity
10. Acid Rain

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Differentiate renewable and nonrenewable energy resources.

Or

(b) Write notes on structure and functions of grassland ecosystem.

12. (a) Write notes on Food Webs of Forest Ecosystem with suitable examples.

Or

(b) Write notes on Genetic, Species and Ecosystem Diversity.

13. (a) Write short notes on Food resources and its problems associated with them.

Or

(b) Write notes on land resources and problem associated with them.

14. (a) Write notes on thermal pollution.

Or

(b) Write notes on energy pyramids with suitable examples.

15. (a) Explore the threats to biodiversity.

Or

(b) Write note on man-made disaster with special reference to strike.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Write an essay on multidisciplinary nature of environmental studies and about the need for public awareness on environment.

Or

(b) Write an essay on Water Resources and problem associated with over-utilization of various water resources.

17. (a) Write an essay on Biogeographical classification of India.

Or

(b) Write an essay on values of biodiversity.

18. (a) Write an essay on causes, effects and control measures of water pollution.

Or

(b) Enumerate various strategies in managing disasters caused due to natural calamities.

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C–5664

Sub. Code
16/17/23/25/ 26/27/29

Common for All U.G. B.Sc./B.B.A. DEGREE EXAMINATION, APRIL 2022

First/Second Semester

ENVIRONMENTAL STUDIES

(2019/2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. ZSI.

2. WII.

3. What is renewable energy?

4. Food web.

5. Pyramid of numbers in aquatic ecosystem.

6. Red data book.

7. List out any five Endemic species of India.

8. List out marine pollutants.

9. *Ex Situ* Conservation.

10. Enlist Option Values of Biodiversity.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write notes on definition, scope and importance of environmental studies.

Or

(b) Write notes on soil erosion and desertification.

12. (a) Write notes on energy flow in the ecosystem.

Or

(b) Write notes on threads to biodiversity.

13. (a) Write notes on Biodiversity at Global, National and Local levels.

Or

(b) Write notes on various strategies of conservation of Biodiversity.

14. (a) Write notes on ecological pyramids.

Or

(b) Write notes on air pollution.

15. (a) Write notes on noise pollution.

Or

(b) Write notes on effects and control measures of nuclear hazards.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on the multidisciplinary nature of Environmental Studies.

Or

(b) Write an essay on the following resources with special emphasis to how they are overexploited/utilized which in turn damage the environment, (i) Forest Resources and (ii) Food Resources.

17. (a) Write an essay on "India is a mega-diversity nation".

Or

(b) Write an essay on Biodiversity and their values.

18. (a) Write an essay on causes, effects and control measures of (i) Marine Pollution and (ii) Water Pollution.

Or

(b) Write an essay on concept, structure and function of ecosystem.

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