

C-3829

Sub. Code

82316

**B.Voc. DEGREE EXAMINATION
INDUSTRIAL AUTOMATION
NOVEMBER 2021 EXAMINATION
First Semester
MANUFACTURING TECHNOLOGY
(2019 onwards)**

Duration: 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is meant by Casting?
2. Write a note on shell moulding.
3. What is meant by centrifugal casting?
4. List the casting defects.
5. What is meant by plasma arc welding?
6. Define welding.
7. Why Laser beam machining is used?
8. Write a note on Thermoplastics.

9. Define the term Lathe.
10. What is meant by Powder metallurgy?

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss Casting types.

Or

- (b) Write briefly about pressure die casting.

12. (a) Write a short note on A.C metal arc welding.

Or

- (b) Discuss about tungsten inert gas welding.

13. (a) Briefly discuss about Horizontal milling machine.

Or

- (b) Discuss on Capstan and Turret lathe.

14. (a) Write about the Moulding of Thermoplastics.

Or

- (b) Write a note on Blow and Rotational moulding.

15. (a) Discuss about the Compression moulding.

Or

- (b) Highlight the importance of Wire drawing and Spinning.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Elaborate on moulding tools and machine moulding.

Or

(b) Explain in detail about CO₂ moulding and investment moulding.

17. (a) Explain the principles of Oxy-acetylene gas welding.

Or

(b) Elaborate on electron beam welding and laser beam welding.

18. (a) Explain Abrasive jet machining and Ultrasonic machining.

Or

(b) Elaborate on advantages and disadvantages of powder metallurgy.

C-5224

Sub. Code

82333

B.Voc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Industrial Automation

DIGITAL LITERACY

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Write the tool bar buttons to bold face, italic and underline.
2. Name any two operating systems you know.
3. Bring out the benefits of digital learning.
4. What is meant by You Tube Channel?
5. List any two examples of using internet for personal requirements.
6. What are the advantages of using smart phone compared to using personal computers?
7. Can you create your own folder in mail account? Give two example folders you create.
8. What are the requirement to join online interview?

9. Compare the use of words http and https at the beginning part of a web address.
10. Differentiate between privacy and security.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Bring out the salient features of Word package in Ms-Office suite.

Or

- (b) Illustrate the creation of any four types of series in Excel.

12. (a) Write short notes on using internet for learning..

Or

- (b) Explain an application that connects another device to your smart phone. List the advantages of doing so.

13. (a) Explain the features of anyone internet based learning platform.

Or

- (b) Explain the procedure to pay electricity bill using anyone mobile app.

14. (a) Explain the features of anyone professional social network you know.

Or

- (b) What are the common data required for uploading your biodata to seek jobs in online job portal?

15. (a) Bring out various guidelines to protect your computer.

Or

- (b) What is cyber crime? Illustrate with an example.

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the features of Power Point Presentation package in MS-office suite.

Or

- (b) What are the functions of an operating system software? Explain in detail.

17. (a) Explain the role of Google and YouTube in digital learning.

Or

- (b) Explain the features of a smart phone in carrying out wireless transactions.

18. (a) Explain account settings for your Email account. How will you make an automatic reply to any mail you receive?

Or

- (b) How will you protect your personal information from cybercrime and threats? Explain in detail.

C-5226

Sub. Code

82357

B.Voc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Industrial Automation

MICRO ELECTRO MECHANICAL SYSTEMS

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is MEMS?
2. Define Transducers.
3. What is Micro fabrication?
4. What is semi conductor?
5. Define Electrostatic Sensor.
6. What is Thermal Couple?
7. What is Magnetic Actuators?
8. Define Inertia.
9. What is Acoustic?
10. What is Plasma Etching?

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write short note on Sensors and Actuators.

Or

- (b) Write short Flexural beam bending.

12. (a) Write short note on parallel plate capacitor.

Or

- (b) Write short note on Thermal Resistor and Thermal Bimorph.

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

Or

- (b) Write about tactile and flow sensors.

14. (a) Write about anisotropic wet etching.

Or

- (b) Write about dry etching of silicon.

15. (a) Write short note on Polymers in MEMS.

Or

- (b) Discuss about actuators for active optical MEMS.

Part C

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

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

Or

- (b) Explain the case studies of MEMS in magnetic actuators.

17. (a) Explain about Piezoresistive sensor and Piezoelectric effect.

Or

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

18. (a) Explain in detail about LCP, PDMS and PMMA.

Or

- (b) Explain in detail about silicon anisotropic etching and deep reaction ion etching.
