C–1604	Sub. Code
	82248

B.Voc. DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Manufacturing Technology

DESIGN OF MACHINE ELEMENTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is curved beams?
2. Write about crane hook.
3. Differentiate between rigid and flexible coupling.
4. How is the strength of a shaft affected by the keyway?
5. What is rigidity?
6. Name the possible mode of failure of riveted joint.
7. Define spring Index.
8. Distinguish between close coiled and open coiled springs.
9. Classify the types of hearings.
10. What is sliding contact?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Describe on eccentric loading.

Or

(b) Explain the factor of safety.

12. (a) Explain the rigid coupling.

Or

(b) Explain the purpose of a spline in a shaft-coupling assembly.

13. (a) Discuss about cotter joints.

Or

(b) What are the main aspects of threaded fastners?

14. (a) Write about connecting rods.

Or

(b) Describe the various types of springs.

15. (a) Write about bearings.

Or

(b) Write about uses of Boyd graphs.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Describe about critical speed.

Or

(b) Explain the various phases in design using a flow diagram and enumerate the factors influencing the machine design.

17. (a) A hollow steel shaft transmits 600 kW at 500 r.p.m. The maximum shear stress is 62.4 MPa. Find the outside and inside diameter of the shaft, if the outer diameter is twice of inside diameter, assuming that the maximum torque is 20% greater than the mean torque.

Or

(b) Describe about Bending and torsional stress equations.

18. (a) Narrate about energy storing elements.

Or

(b) Explain in detail about factors influencing machine design.

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C–1605	Sub. Code
	82252

B.Voc. DEGREE EXAMINATION, APRIL 2024.

Fifth Semester

Manufacturing Technology

BASICS OF LEGAL AND HR POLICIES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Communication.
2. What is Team Work?
3. Define Case Study.
4. What is partial employment?
5. Write the meaning of offer letter.
6. Expand CTC.
7. Write short note on bond.
8. Write the merits of insurance.
9. Define Social Security.
10. What is legal literacy?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the types of employment.

Or

(b) Write the steps in problem solving skills.

12. (a) Write briefly about the Tax impact of the salary components.

Or

(b) Write about the hierarchy of courts.

13. (a) Discuss the basics of Indian Constitution.

Or

(b) Write about sexual harassment of woman Act 2013.

14. (a) Write short note on payment of gratuity Act 1972.

Or

(b) Discuss about Minimum wages Act 1948.

15. (a) What is the need to understand social security?

Or

(b) State the difference between Private Sector and Public Sector Employment.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Elaborate the importance of Team work and Communication.

Or

(b) Explain the importance of training and case study.

17. (a) Explain annual performance appraisal, bonus and revision in salary component.

Or

(b) Explain the salient features of Right to Information Act.

18. (a) Elaborate on the legal aid services and gender justice in Indian law.

Or

(b) Explain the retirement planning for self employed and private sector employees.

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C–1606	Sub. Code 82262

B.Voc. DEGREE EXAMINATION, APRIL 2024.

Sixth Semester

Manufacturing Technology

INDUSTRIAL SAFETY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List the general safety rules.

2. What is the inspection on turning machines?

3. Brief on guarding.

4. Define the importance of ZMS.

5. What is gas welding?

6. Outline the importance of arc welding.

7. Highlight on cold working.

8. What is the importance of safety in forging?

9. Outline on electro plating.

10. Brief on sand blasting.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Demonstrate the principles of safety.

Or

(b) Compare the safety in boring and milling machines.

12. (a) Illustrate the policy for ZMS.

Or

(b) Justify the importance interlock guard.

13. (a) Narrate on oxygen cutting.

Or

(b) Describe the common hazards during welding.

14. (a) Discuss on hand operated presses.

Or

(b) Illustrate on safety of hot working in forging.

15. (a) Justify the safety in inspection and testing.

Or

(b) Narrate on the dynamic balancing.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Demonstrate on safety and maintenance of planning machines.

Or

(b) Prove the safety in shaping and grinding machines.

17. (a) Describe the safety precautions in brazing.

Or

(b) Illustrate about the power press electric controls.

18. (a) Explain the hot rolling mill operation.

Or

(b) Demonstrate on the industrial waste disposal.

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