

ERMS3 Hydraulic and Pneumatic Systems

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REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains TWO Pages

PART-A (1x10=10)

1. Define Specific gravity.
2. What are the types of piston pumps?
3. Define hydraulic cylinder.
4. What is priming?
5. What is the function of check valve?
6. Draw the symbol of sequence valve.
7. State the purpose of accumulator.
8. What is a meter in circuit?
9. Write types of compressor.
10. What is submersible pump?

PART-B (3x5=15)

UNIT-I

11. Define (i) Density (ii) Bulk modulus.
12. What are the basic properties of hydraulic fluids?

UNIT-II

13. Write short notes on tandem cylinder
14. What are the differences between the impulse and reaction turbine?

UNIT-III

15. Draw the symbol for four way directional control valves and write about it.
16. What are the types of flow control valve?

UNIT-IV

17. Write short notes on the spring loaded accumulator.
18. Write short notes on hoses.

UNIT-V

19. Write short notes on any one filter in pneumatics system.
20. Draw the sketch of double acting reciprocating pump and indicate the parts.

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PART-C (10x5=50)

UNIT-I

21. Explain about external gear pump with neat sketch.
22. Explain with a neat sketch working of balanced vane pump.

UNIT-II

23. With suitable sketch explain the working of single acting cylinder.
24. Briefly explain the construction and working of a single stage centrifugal pump with a sketch.

UNIT-III

25. Explain about pressure reducing valve with neat sketch.
26. Explain the operation of cushioned cylinders with neat sketch.

UNIT-IV

27. Sketch and explain the construction and working of a pressure gauge.
28. Explain the sequence circuit with a neat sketch.

UNIT-V

29. With the help of the neat sketch, explain the construction and working of two stage piston compressor.
30. Describe with a neat sketch the working of jet pump.
