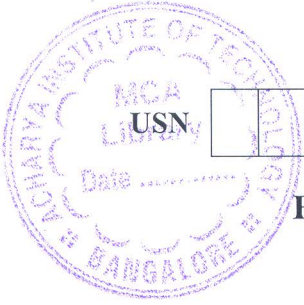


# CBCS SCHEME



15AU554

## Fifth Semester B.E. Degree Examination, June/July 2023 Hydraulics and Pneumatics

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Sketch and explain basic components required in a hydraulic power system. (08 Marks)  
b. Write the advantages and disadvantages of Hydraulic system. (08 Marks)

OR

- 2 a. Explain External gear motor with neat sketch. (07 Marks)  
b. With neat sketch and examples, explain first, second and third class lever system. (09 Marks)

### Module-2

- 3 a. Explain the Restrictor type-pressure compensated valve, with a neat sketch. (08 Marks)  
b. Sketch and explain Unloaded Valve. (08 Marks)

OR

- 4 a. Explain the desirable properties of Hydraulic oil. (08 Marks)  
b. State Causes and Remedies for the following : (08 Marks)  
i) Low flow ii) High pressure

### Module-3

- 5 a. Explain briefly the principle involved in a regenerative circuit. (08 Marks)  
b. Explain the working of double pump hydraulic system with a neat sketch. (08 Marks)

OR

- 6 a. Explain the working of speed control and direction reversal of a hydraulic motor. (08 Marks)  
b. With a neat circuit diagram, explain Accumulator as an emergency power source. (08 Marks)

### Module-4

- 7 a. Explain the following with neat sketch : (10 Marks)  
i) Cylinder cushioning ii) Impact cylinder  
b. What are the characteristics of compressed air? (06 Marks)

OR

- 8 a. Explain with a suitable circuit diagram, a Quick Exhaust Valve. (08 Marks)  
b. Explain 3/2 poppet valve with sketch. (08 Marks)

### Module-5

- 9 a. Explain signal elimination by cascade method. (10 Marks)  
b. Explain with a neat sketch, working of solenoid in pneumatic system. (06 Marks)

OR

- 10 a. Describe single acting compressor with a neat sketch. (06 Marks)  
b. Discuss the Dryers and Lubricators with a suitable diagram. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8=50, will be treated as malpractice.