

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Automation & Robotics) (Sem.-4)

**HYDRAULIC AND PNEUMATICS**

Subject Code : BTAR-403-18

M.Code : 77599

Date of Examination : 07-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write briefly :**

- a) What do you mean by basics of hydraulics?
- b) What is the role of seals in cylinders?
- c) What do you mean by optimum filtration?
- d) What is the difference between open and closed loop system?
- e) What do you mean by pump ripple?
- f) What is the role of accumulators in hydraulic circuits?
- g) Explain about the compressibility of hydro pneumatic systems as compared to hydraulic systems.
- h) Discuss what type of automations is achieved through pneumatic circuits.
- i) Discuss basic procedure required for maintenance of air compressor.
- j) What is the use of check valve in hydraulic circuits?

## SECTION-B

2. Discuss the nature, effect and sources of contamination in filters.
3. Explain in brief the cushioning of hydraulic cylinders with suitable diagram.
4. Discuss the types and properties of hydraulic fluids.
5. Discuss with suitable diagram the functioning of vane motor and gear motor.
6. Write a short note on electrical control of hydraulic system.

## SECTION-C

7. Write a brief comparison on hydro pneumatic, hydraulic systems and pneumatic system?
8. With a suitable example and diagram, explain the cascade system of pneumatic circuit design.
9. Discuss in detail the maintenance need of pneumatic systems and explain common problems in pneumatic system.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**