

**4653****BOARD DIPLOMA EXAMINATION, (C-14)****JUNE-2019****DME - FIFTH SEMESTER EXAMINATION****FLUID POWER CONTROL SYSTEMS**

Time: 3 Hours ]

[Max. Marks : 80

**PART -A****10X3=30M**

- Instructions:** 1) Answer **all** questions. Each question carries **three** marks.  
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.
- 1) List the basic components of hydraulic system.
  - 2) State the any four differences between hydraulic and pneumatic system.
  - 3) Classify the various types of hydraulic actuators.
  - 4) Write any three functions of Flow control valves.
  - 5) Write short notes on needle type Non-pressure compensated flow control valve.
  - 6) What are the factors to be considered for designing hydraulic circuit?
  - 7) Draw the neat sketch of pneumatic system and Label the parts.
  - 8) State the any two advantages and disadvantages of pneumatic system.
  - 9) Write short notes on diaphragm cylinder.
  - 10) State the function of pneumatic circuit.

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## PART-B

5X10=50M

- Instructions:**
- 1) Answer any **five** questions.
  - 2) Each question carries **ten** marks.
  - 3) Answers should be comprehensive and the criterion for valuation is the content but not the length of answer.
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- 11) Draw a neat sketch of internal gear pump and explain its working. Also write advantages and disadvantages of internal gear pump.
  - 12) Classify the hydraulic motors and explain the hydraulic piston motor with neat sketch.
  - 13) Explain the (a) telescopic and (b) Tandem cylinder with diagrams.
  - 14) What is solenoid? Describe the working principle of solenoid actuated check valve with a neat sketch.
  - 15) Describe the operation of pressure reducing valve with neat diagram.
  - 16) Draw and explain safety circuit for protection against overload.
  - 17) Explain the construction and working principle of single acting pneumatic cylinder with neat sketch.
  - 18) Explain the direct and indirect control of single acting cylinder.

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