

MANIPAL (A constituent unit of MAHE, Manipal)

V SEMESTER B. TECH (MECHANICAL/IP ENGG.) END SEMESTER EXAMINATIONS, NOVEMBER 2018

SUBJECT: FLUID DRIVES AND CONTROL [MME 4017]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ALL the questions.

Draw neat sketches (strictly no free hand diagrams)

1A)	Explain the structure and signal flow in hydraulic control system	(05)
1B)	With the help of neat sketch explain the working of air lubricator	(05)
2A)	Sketch and explain how end cushioning arrangement is done in air cylinders	(04)
2B)	Sketch and explain working of 5/2 direction control valve. Also write the circuit demonstrating the application of this valve.	(04)
2C)	Show any four methods of mounting air cylinders	(02)
3A)	Sketch and explain working of time delay valve	(04)
3B)	Write a note on optical sensors used in electro pneumatics	(04)
3C)	What are the advantages of electro pneumatics	(02)
4A)	Clearly explain the working of pressure reducing valves	(04)
4B)	With the help of graphical symbol compare pressure relief valve and pressure reducing valve.	(02)
4C)	With the help of suitable example clearly explain the working of pressure sequencing circuits	(04)
5A)	What is accumulator? Draw the neat sketch and explain the working of weight loaded accumulator.	(04)
5B)	Sketch and explain working of vane motors.	(03)
5C)	Draw symbols for following componentsi) 4/3 tandem neutral direction control valveii) Accumulatoriii) Rotary pneumatic actuatoriv) Rotary hydraulic actuatorv) Counter balance valvevi) electrical push button	(03)