Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **14ME2007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FLUID POWER CONTROL ENGINEERING** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | List the advantages, disadvantages and applications of fluid power systems. | CO1 | 12 |
| b. | Discuss the functions of hydraulic fluids and the important properties. | CO2 | 8 |
| (OR) | | | | |
| 2. | a. | Describe the construction and working of the following positive displacement pump: Radial piston pump and Unbalanced Vane Pump. | CO3 | 14 |
| b. | For a second class lever system given in the following figure, determine the hydraulic cylinder force required to overcome the load.  fpc linear actuator | CO2 | 6 |
|  |  |  |  |  |
| 3. | a. | Discuss in detail, the construction and working of hydraulic 4/3 DCV with neat diagrams. | CO3 | 10 |
| b. | List the functions of intensifier in an hydraulic circuit and discuss with one application. | CO4 | 10 |
| (OR) | | | | |
| 4. | a. | List the different types of pressure accumulators and explain the working of any two accumulators with neat sketches. | CO3 | 12 |
| b. | Draw a hydraulic accumulator circuit. | CO4 | 8 |
|  |  |  |  |  |
| 5. | a. | Discuss the constructional details of hydraulic reservoir with neat diagram. | CO3 | 10 |
| b | Describe the working of external gear type hydraulic motor with neat sketches. | CO3 | 10 |
| (OR) | | | | |
| 6. | a. | With neat diagram explain, the working principle of relay. | CO3 | 10 |
| b. | Draw the electro pneumatic circuit using relay and solenoids. | CO4 | 10 |
|  |  |  |  |  |
| 7. | a. | Design and develop a pneumatic circuit for the sequence of A+B+A-B- | CO4 | 12 |
| b. | Illuminate concisely the working of any two fluidic sensors with neat sketches. | CO3 | 8 |
| (OR) | | | | |
| 8. | a. | With a neat sketch, explain the hydraulic circuit for hydraulic press. | CO4 | 12 |
| b. | Draw the pneumatic circuit for pressure sequence valve application. | CO4 | 8 |
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|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss the working of the following pneumatic circuits:  i. Meter-in ii. Meter-out and iii. Quick exhaustValve | CO4 | 12 |
| b. | Draw the hydraulic sequence valve circuit. | CO4 | 8 |

ALL THE BEST