459 Register No.:

April 2018

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART - A and PART - B

(2) Answer division (a) or division (b) of each question in PART - C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. Why the pump noises occur?
2. What is cylinder force?
3. Define the term intensifier ratio.
4. What is a needle valve?
5. What is meant by cylinder cushioning?
6. What is the function of pneumatic actuator?
7. Mention the advantages of PLC.
8. What is PLC?

PART – B

9. What are the applications of fluid power system?
10. What do you understand by positive displacement pumps? Name any two positive displacement pumps.
11. What is the function of hydraulic intensifier?
12. Explain about the selection of FCV.
13. Explain piston rod buckling.
14. Explain shuttle valve with sketch.
15. What are the criteria for selection of suitable PLC?
16. Explain the working of time delay valve.

[Turn over.....

PART – C

17. (a) (i) Explain the construction and working of unbalanced vane pump with a neat sketch.
(ii) Explain the construction and working of any one type of gear motor.

(Or)

(b) (i) Explain about any two cylinder mountings with sketch.
(ii) Explain about shock absorber.

18. (a) Explain the construction and working principle of pressure reducing valve with its application circuit.

(Or)

(b) (i) Explain the operation of check valve with neat sketch.
(ii) What is accumulator? Explain any one type of accumulator with a sketch.

19. (a) Explain in detail, the selection of hydraulic cylinder.

(Or)

(b) Explain in detail, the dynamic seals and its classification.

20. (a) (i) Explain the working of two-pressure valve.
(ii) Write briefly about the pressure sensor.

(Or)

(b) (i) Explain the operation of single acting cylinder.
(ii) Explain the working of two-step speed control system.

21. (a) (i) Explain the advantages of PLC over electro mechanical relays.
(ii) Write the program for 4 floor lift system.

(Or)

(b) Explain the timer instruction with an example.
