

**October 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. What is meant by pump noise?
2. Define cylinder force.
3. Define the term servo valve.
4. What is the function of counter balance valve?
5. Define piston rod buckling.
6. Why are mufflers used in pneumatic system?
7. List the advantages of PLC.
8. Mention the advantages of hydro-pneumatic systems.

PART – B

9. List out the advantages of fluid power.
10. Write briefly about on-delay timer.
11. Write a short note on diaphragm type accumulator.
12. Write a short note simple relief valve.
13. Discuss pressure loss in pipe lines.
14. Write briefly about telescopic cylinder.
15. List out the programming methods in PLC.
16. How are hydraulic motors classified?

[Turn over.....

PART - C

17. (a) Explain the working of gear pump with a neat sketch.  
(Or)  
(b) Explain the principle of operation of hydraulic motor.
18. (a) Explain the working principle of unloading valve with neat sketch.  
(Or)  
(b) Draw and explain the two hand safety control circuit.
19. (a) Explain in detail about seals and its classification.  
(Or)  
(b) Explain the reservoirs and its design.
20. (a) Explain the working of air-pilot control of double acting cylinder.  
(Or)  
(b) Explain material handling circuit.
21. (a) Explain the programming methods of PLC.  
(Or)  
(b) Explain SCADA with neat sketch. Give its advantages.
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