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C14-M-505

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BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DME - FIFTH SEMESTER EXAMINATION

FLUID POWER CONTROL SYSTEMS

Time : 3 Hours] [Total Marks: 80

PART-A

3X10=30

Instructions :
1. Answer **All** questions.
2. Each question carries **three** marks.
3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List any three advantages of fluid power system.
2. Differentiate between hydraulic systems and Pneumatic systems.
3. List various types of hydraulic cylinders.
4. State functions of flow control valve.
5. Draw the graphic symbols for flow control valve.
6. What are the factors considered for designing hydraulic circuit?
7. An air tank has a volume of 0.15m^3 and is filled with a compressed air at a gauge pressure of 8.25 bar, at a temperature of 45^oC, the air is cooled to 20^oC. What is the final pressure in the tank?
8. Define the term Pneumatics.
9. List various types of Pneumatic actuators.
10. State functions of pneumatic circuits.

PART-B

10X5=50

Instructions :

1. Answer any **Five** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Explain the working of external gear pump with neat sketch. State its advantages and disadvantages.

12. Explain the following hydraulic motors.

    (a) Gear motor

    (b) Vane motor.

13. Explain the construction and working principle of Double-acting cylinders.

14. What is a check valve? Explain ball type check valve with a neat sketch.

15. Explain the simple pressure relief valve with a neat sketch.

16. Explain the hydraulic circuit to control single-acting cylinders.

17. Explain the following pneumatic cylinders:

    (a) Tandem cylinder

    (b) Telescopic cylinder.

18. Explain direct control of double acting cylinder with circuit diagram.

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