



SF-7857

B. E. IV (Sem. VIII) (Mech.) Examination
May / June - 2011
Fluid Power Engineering (Elective - II)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

| | |
|--|----------------------|
| नीचे दृशाविक निशानीवाणी विगतो उत्तरवडी पर अवश्य कभववी. Fillup strictly the details of signs on your answer book. | Seat No. : |
| Name of the Examination : | <input type="text"/> |
| <input type="text" value="B. E. 4 (Sem. 8) (Mech.)"/> | <input type="text"/> |
| Name of the Subject : | <input type="text"/> |
| <input type="text" value="Fluid Power Engineering (Elective - 2)"/> | <input type="text"/> |
| Subject Code No. : <input type="text" value="7"/> <input type="text" value="8"/> <input type="text" value="5"/> <input type="text" value="7"/> | <input type="text"/> |
| Section No. (1, 2,.....) : <input type="text" value="Nil"/> | <input type="text"/> |
| | Student's Signature |

- (2) Attempt **all** questions.
- (3) Use of calculator is permitted.
- (4) Figure to the **right** indicate full marks.
- (5) Assume suitable data if required.

- 1 (a) Answer the following questions : 10
 - (i) Define Pascal law.
 - (ii) Define unsteady flow process.
 - (iii) Draw the sketch of lever operated three position four-connection closed-canter valve.
 - (iv) Write limitations of centrifugal pump.
 - (v) Define : Pneumatic fluid.
- (b) Draw the following symbols : 10
 - (i) Line joining
 - (ii) Pressure relief valve
 - (iii) Mechanical operated two position four connection
 - (iv) Line with fixed restriction
 - (v) Pressure reducing valve.

- 2 (a) Write short note on fluid seal material. 7

OR

- (a) Write short note on simple hydraulic accumulator. 7
- (b) Explain rotary pump with neat sketch. 8

OR

- (b) State types of pump. Also write selection factor of pump. 8
- 3** Answer any **two** : **15**
- (i) Differentiate Rotary pump and R.C. Pump
 - (ii) What are the important of hydraulic valve.
 - (iii) Write short note on fluid power engineer.
 - (iv) Discuss types of filters and its important.
- 4** (a) Draw the symbols of the following : **10**
- (i) Motor-Rotary Fixed Displacement and Rotary Variable Displacement.
 - (ii) Four way direction control valve - normal position
 - (iii) Heat exchanger - cooler with liquid cooling.
 - (iv) Pilot check valve with variable orifice.
 - (v) Variable flow control valve.
- (b) Why temperature control of fluid in hydraulic system is required ? List the types of temperature control devices. **5**
- (c) Automatic fluid temperature control. **5**
- 5** (a) (i) Total priority circuit for flow control. **5**
- (ii) Explain pressure reducing valve. **5**
- (b) Explain spool type diversion valve. **5**
- OR**
- 5** (a) Explain adjustable compensated flow control valve. **5**
- (b) Explain electrically operated relief valve. **5**
 - (c) Explain bleed-off circuit for flow control. **5**
- 6** (i) Poppet type direction control valve. **15**
- (ii) Normally close pilot check valve.
 - (iii) Fluid sealing material.
 - (iv) Counterbalance circuit.
-