

**DIPLOMA IN FIRE SAFETY MANAGEMENT
(DFSTYM)**

Term-End Examination

June, 2011

**BSE-045 : PUMP OPERATION AND
DISTRIBUTION OF WATER**

Time : 3 hours

Maximum Marks : 75

Note : Attempt all questions. Please write neatly.

GROUP - A

5x2=10

1. (a) Centrifugal pump with more than 2 impellers is called _____ Pump.
- (b) A gauge designed to measure Positive Pressure is called _____ .
- (c) Force exerted Per unit of Area is called _____.
- (d) A device to divert engine Power from running an appliances to running equipment on it, such a built in Pump is called _____.
- (e) A Pump in which water is moved mechanically by means of gear wheels or similar devices is called _____.

GROUP - B

2. Select the right answer. 5x2=10

- (a) What metal is normally used in the manufacture of a Fire-Pump impeller ?
- (i) Phosphor bronze or gun metal
 - (ii) Brass
 - (iii) Steel.
- (b) An instrument for measuring the speed of an engine is known as :
- (i) Speedometer.
 - (ii) Tachometer.
 - (iii) Barometer.
- (c) How the water Pressure on a Pump be regulated ?
- (i) By increasing or decreasing the engine speed.
 - (ii) By delivery valve.
 - (iii) By none of the above.
- (d) To what Temperature should the over flow be regulated :
- (i) 135° F
 - (ii) 150° F
 - (iii) 125° F
- (e) Which Fire Tender is used in Rural Fire ?
- (i) Type A.
 - (ii) Type B
 - (iii) None of the above.

GROUP - C

3. Write short notes on *any seven*.

5x7=35

- (a) Characteristics in regard to pressure and discharge of centrifugal pump.
- (b) What is the purpose of incorporating the coupled cooling system on certain appliances ?
- (c) Advantages and disadvantages of Rotary Pump.
- (d) Lift Pump.
- (e) Two Stage Pump.
- (f) Water Sealed Primer.
- (g) Ejector Pumps.
- (h) Cavitation
- (i) Mechanical Seal.

GROUP - D

Answer *any two* :

10x2=20

4. Explain in detail the working of water ring Primers, with neat diagram.

 5. Explain in detail closed circuit water relays with the diagram.

 6. Explain the working of Internal Combustion engine driven Pumps.
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