UNIT IV- PUMPS PART – A (2 Marks)

01. Mention the main components of reciprocating pump? **(NOV-02)**
02. Define Slip of reciprocating pump. When the negative slip does occur? **(DEC-08)**
03. When will you select a reciprocating pump? **(DEC-05)**
04. What are rotary pumps? Give examples **(Apr-03)**
05. Write short notes on types of rotary pumps? **(NOV-02)**

PART-B (16 Marks)

01. The diameter and stroke of a single acting reciprocating pump are 200mm and 400mm, the pump runs at 60 rpm and lift 12lit of water per second through a height of 25m, The delivery pipe is 20m long and 150mm in dia . Find
    i) Theoretical power required to turn the pump
    ii) %of slip
    iii) Acceleration head at the beginning and middle of the delivery stroke.
02. The length and the dia of suction pipe of a single acting reciprocating pumps are 5m and 10cm the pumps has a plunger of dia 150mm and of stroke length of 300mm. the centre of the pump is 4m above the water surface in the pump. The atmospheric pressure head is 10.3m of water and the pump is running at 40rpm Determine
    i) Pressure head due to the acceleration at the beginning of the suction stroke
    ii) Maximum pressure head due to acceleration
    iii) Pressure head in the cylinder at the cylinder at the beginning and the end of the stroke. **(NOV-04)**
03. Two geometrically similar pumps are running at the same speed of 750rpm. One pump has an impeller dia of 0.25m and lifts the water at the rate of 30lit/s against a head of 20m .Determine the head and impeller diameter of the other pump to deliver half the discharge **(NOV-03)**
04. The indicator diagram of a single acting reciprocating pump gives effective delivery head of 5m and 23m with crank at inner and outer dead center respectively. What is static delivery head of reciprocating pump **(APR-05)**
05. A single acting reciprocating pump running at 50rpm delivers 0.01m^3/s of water. The diameter of the piston is 200mm and stroke length 400mm determine the pump co-efficient of discharge and pump , co-efficient of discharge and slip and % of slip. **(APR-06)**