

IMPORTANT QUESTIONS OF MINE MACHINERY-II

UNDERGROUND FACE MACHINERIES

Marks-2

- 1) Explain cutting units of shearer loader ?
- 2) How many types of drilling bits are there & name them ?
- 3) How many types of drilling rods are there & name them?
- 4) State difference between jack hammer drill and air leg rock drill?

Marks-5

- 1) Explain uses of electric coal drill ?
- 2) State applicability condition of LHD & SDL ?
- 3) State advantages & disadvantages of electric coal drill ?
- 4) State advantages & disadvantages of SDL ?
- 5) State advantages & disadvantages of LHD ?

Marks-10

- 1) Describe constructional features of electric coal drill with diagram?
- 2) Describe constructional features of gathering arm loader with diagram?
- 3) Describe constructional SDL & LHD?
- 4) Describe constructional feature of jack hammer drill and air leg rock drill ?
- 5) Describe constructional feature of road header & shear loader ?

OPENCAST MACHINERIES

Mark-5

- 1) State difference between shovel and dragline ?
- 2) State applicability condition of bucket wheel excavator ?
- 3) Discuss tyre and crawler mounted locomotives ?

Mark-10

- 1) Describe constructional feature of Bucket wheel excavator ?
- 2) Describe constructional features of shovel & dragline ?
- 3) Describe constructional features of scraper & road grader ?

MINE PUMPS

Marks 2-

- 1) What is the advantages of roto pump over other pumps?
- 2) What do you mean by priming and why we do it ?
- 3) What do you mean by water hammer?
- 4) How to minimize water hammer?
- 5) What do you mean by air vessel?
- 6) What do you mean by cavitation?
- 7) What do you mean by overall efficiency ?
- 8) State function of ram pump ?

Marks 5 –

- 1) Describe in brief characteristic curve of turbine pump with diagram ?
- 2) State principle of operation of roto pump ?
- 3) State and explain different types of pump used in mines ?
- 4) State the main reason for water hammer ?
- 5) State the main reason for cavitation ?
- 6) Find discharge velocity head if speed of discharge is 30 m³/sec & use $g=9.8 \text{ m/s}^2$.
- 7) What do you mean by coal plough ?
- 8) State & explain hydraulic balancing disc ?

Marks 10-

- 1) State & explain different types of pumps ?
- 2) State & explain balancing of thrust in turbine pump ?
- 3) State & explain procedure of suspension in shaft ?
- 4) Describe basic constructional features & working of ram pump ?
- 5) State advantages and disadvantages of ram pump ?
- 6) Draw & explain characteristics curve of turbine pump ?

- 7) Describe constructional features ,principle ,limitation and applicability condition of mono pump ?
- 8) Discuss components of centrifugal pump with diagram ?

BORE HOLE PUMP

Marks 10-

- 1) Describe in brief basic constructional features & working of bore hole pump ?
- 2) State & explain installation of bore hole pump ?

PIPES AND VALVES

2 Marks-

- 1) Discuss differnt types of pipes ?
- 2) Discuss loose flange joints ?
- 3) Explain unicorn joints ?

5 Marks-

- 1) Describe constructional feature of various types of valves ?
- 2) Discuss support of laying main pipe in shaft ?

10 Marks-

- 1) Discuss the pipe line layout ?
- 2) State & describe different type of pipe joints ?