



- This is a close book exam.
- Answer **All** the following questions
- No. of pages: 2
- No. of questions: 6

Question #1 (15 Marks)

- 1- A well designed MH system attempts to achieve many important points, present at least 5 points. **(5 Marks)**
- 2- What should your employees know before moving, handling, and storing materials? **(5 Marks)**
- 3- What makes manual handling hazardous? **(5 Marks)**

Question #2 (15 Marks)

- 1- Tension varies along the belt length depends on some factors, present at least 5 factors. **(5 Marks)**
- 2- Compute the load capacity of a V-shaped belt conveyor, if the conveyor belt speed, active belt width, density of material, angle of surcharge, and roller inclination angle equal to 10m/s, 1.75m, 801 kg/m³, 12°, and 25° respectively. **(10 Marks)**

Question #3 (10 Marks)

- 1- Explain with **sketch** the two types of bucket elevator depending on the load? **(5 Marks)**
- 2- Explain with **sketch** the two types of bucket elevator depending on the type of discharge? **(5 Marks)**

Question #4 (20 Marks)

- 1- Select any material, and then present which MH method is the best for moving it. You **must** present in details; how, why, where, when, and name of your customer. **(10 Marks)**
- 2- Explain in details with **sketch** the MH methods **(10 Marks)**

Question #5 (4 Marks)

Complete all the following sentences.

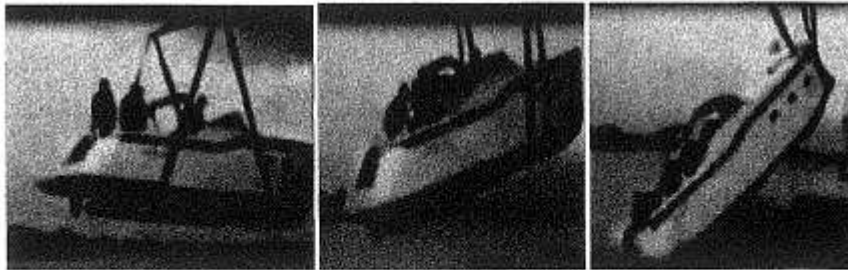
1. MH is, **(1 Mark)**
2. The foremost importance of MH is **(1 Mark)**
3. A belt conveyor is..... **(1 Mark)**
4. The efficiency of belt conveyor is largely dependent on..... **(1 Mark)**

Question #6 (6 Marks)

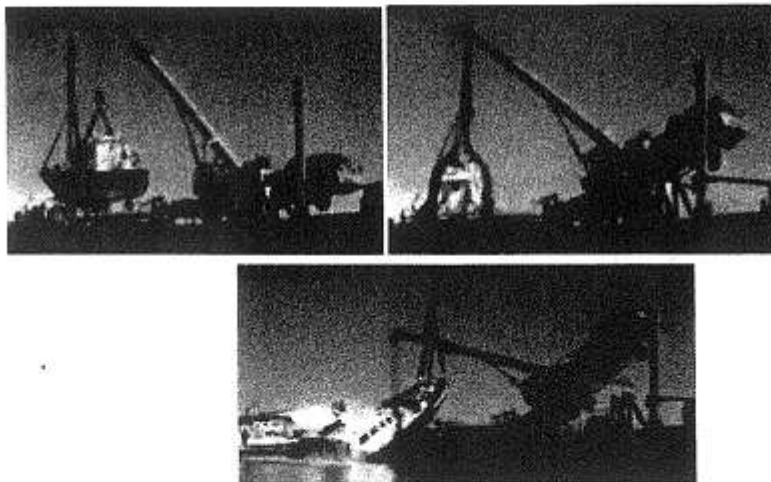
In each case, Present why the accident was occurred, and then give your opinion to solve the problem .



Accident No. 1 (2 Marks)



Accident No. 2 (2 Marks)



Accident No. 3 (2 Marks)

[2/2]

With my best wishes

Dr Wasim Helal