1. Consider the statement below,

“In Health Plus Hospital an admitted patient is assigned for a specific doctor for examination. One doctor is assigned with many patients”

1. a) Identify entities and relationships.
2. entity- hospital, patient, doctor
3. relationship – admit, assign,
4. b) Work out the cardinalities
5. hospital – patient 🡪1-N
6. doctor – patient 🡪1-N
7. c) Identify possible attributes for the entities
8. patient – name, age, dob, phone\_no, address
9. doctor – name, age, dob, phone\_no, address
10. d) Draw an ER diagram.

assign

patient

1 N

Doctor

2. At SLIIT, degree courses are conducted. Students can enroll in degree courses. They have to follow many units/subjects for a particular degree program. There is a well-qualified academic staff to teach.

1. Diagram

   Description automatically generated
2. a) Identify the entities on the above scenario
3. entity – courses, student, subject, staff, sliit
4. b) Identify the relationships between entities.
5. relationship – conduct, enroll, follow, teach
6. c) Draw an ER diagram. Show some possible attributes for each entity and indicate the cardinalities. Diagram

   Description automatically generated

3. Consider the following statement.

“Manufacturer orders parts from suppliers. A given manufacturer can order a particular part from many suppliers”

1. a) Identify the entities.
2. entities- manufacturer, suppliers, parts
3. b) Draw a suitable ER Diagram.

Diagram

Description automatically generated with medium confidence

4. Answer the questions considering the scenario given below.

MultiColor (Pvt) Ltd., a manufacturing company, is located at 35/1, Galle road, Colombo4. It has 6 departments: *Production, Business Development, Human Resource Management, Finance, IT and Research & Development*.

Rosell, 23 years old, a diploma holder who is residing at 54/A, Kirula Road, Narahempita joined the company as a *management trainee*. She joined the *Production department* on 01/01/2005. When Rosell successfully completed her Commerce degree, she was promoted as *Finance Executive* and transferred to the *Finance department* from 02/02/2006.

Considering her MBA qualification, the management of the company promoted her as *Assistant Manager - Business Development* and transferred to the *Business Development department* with effect from 03/03/2008.

1. a) Identify the entities and their attributes.
2. muliticolor – address, department
3. Rosell - age, address, status, workplace, startdate, degree, position, promotion
4. assistant manager – MBA
5. b) Draw an ER diagram to model the above scenario.Diagram, engineering drawing

   Description automatically generated
6. c) “The company expanded its operations in 2010. It opened branches in Kandy, Mahiyanganaya, Kegalle, Biyagama, Katunayake and Galle. Now, each employee works in one department and at a single location”.

Modify the ER diagram to illustrate the above scenario. Diagram

Description automatically generated

d) “The company has a medical scheme which covers the dependents of employees. Dependents are identified by their names. Once an employee leaves the company, the company no longer wants to keep his/her information”.

Diagram

Description automatically generatedModify the ER diagram to model the above scenario.