

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (BIOMEDICAL INFORMATICS) – END OF SEMESTER 1 :
MODULE C1 EXAMINATION – NOVEMBER 2014

Date :- 7th November 2014

Time :- 1.30 p.m. – 3.00 p.m.

Answer all six questions.

Answer each question in a separate answer book.

1.

- 1.1. Briefly describe 'Attribute defined' and 'Predicate defined' specializations in an Enhanced Entity Relationship/ Extended Entity Relationship (EER) model. (20 marks)
- 1.2. Describe four (04) categories of specializations observed in an EER model using appropriate schema diagrams. (40 marks)
- 1.3. Answer following questions using the under mentioned Structured Query Language (SQL) script.

```
CREATE TABLE patientinfo(  
PATIENT_ID VARCHAR(6) PRIMARY KEY,  
fname VARCHAR(45),  
lname VARCHAR(45),  
d_o_b DATE,  
nic VARCHAR(10),  
gender ENUM('M','F','T'));
```

```
CREATE TABLE patientphone(  
PATIENT_ID VARCHAR(6),  
pnumber VARCHAR(10),  
ptype ENUM('Land','Mobile'),  
CONSTRAINT PRIMARY KEY(PATIENT_ID, pnumber),  
CONSTRAINT FOREIGN KEY (PATIENT_ID) REFERENCES patientinfo(PATIENT_ID)  
ON DELETE RESTRICT  
ON UPDATE CASCADE);
```

- 1.3.1. Draw an Entity Relationship (ER) schema diagram which represents the Relations (Tables) created by the above SQL script. (30 marks)
- 1.3.2. Outline the 'Referential Integrity' constraints used in the above script. (10 marks)