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University Examinations 2013/2014

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR DIPLOMA IN CIVIL
ENGINEERING

ECV 0227: BUILDING SERVICES ENGINEERING

DATE: APRIL 2014

TIME: 1 ½ HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE – (30 MARKS)

- (a) Explain the following terms as used in building engineering services.
- (i) Sound insulation
 - (ii) Illuminance
 - (iii) Fire resisting material (3 Marks)
- (b) Differentiate between air-borne and impact sound in buildings. (2 Marks)
- (c) State any two functions of water service reservoir. (2 Marks)
- (d) Explain the use of the following equipments in sanitary fittings;
- (i) Stop valve
 - (ii) Safety valve
 - (iii) Soil vent pipe
 - (iv) Equilibrium ball valve (2 Marks)
- (e) State three conditions that determine the quantity of natural light in a room. (3 Marks)
- (f) Explain the use of the following in electrical installation:
- (i) Meter box
 - (ii) Consumer control unit (2 Marks)
- (g) Explain three essentials of a good electrical supply system. (3 Marks)
- (h) Briefly explain the elements of landscaping. (5 Marks)
- (i) Briefly explain the two categories of ventilation. (4 Marks)

QUESTION TWO – (15 MARKS)

- (a) Briefly explain the two sources of lighting in a building. (4 Marks)
- (b) Explain five essentials of a good ventilation system. (5 Marks)
- (c) Explain four measures that can be adopted in building to limit the spread of fire. (6 Marks)

QUESTION THREE – (15 MARKS)

- (a) Explain any three factors that affect ventilation in a room. (4 ½ Marks)
- (b) Briefly explain the three systems of air conditioning. (4 ½ Marks)
- (c) Explain any three measures that can be taken into consideration to reduce structure-borne noise in a building. (6 Marks)

QUESTION FOUR – (15 MARKS)

Using a suitable diagram explain how direct cold water supply works. State the advantages and disadvantages of the system. (15 Marks)