

**Scheme –I**  
**Sample Question Paper**

**Program Name** : Diploma in Medical Electronics  
**Program Code** : MU  
**Semester** : Fifth  
**Course Title** : Energy and Biomedical Waste Management  
**Marks** : 70

22549

**Time: 3 Hrs.**

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**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1) Attempt any FIVE of the following.**

**10 Marks**

- a) State the working principle of PV cell.
- b) State applications of solar energy.
- c) State the need of energy conservation.
- d) Classify Bio-medical waste.
- e) State health impact of biomedical waste.
- f) Draw flow chart of biomedical waste management process.
- g) Define waste incineration.

**Q.2) Attempt any THREE of the following.**

**12 Marks**

- a) Explain wind turbine using suitable diagram.
- b) Compare conventional and non-conventional Energy sources.
- c) Explain energy conservation act 2001.
- d) Write short note on environmental pollution due to medical waste.

**Q.3) Attempt any THREE of the following.**

**12 Marks**

- a) Describe different types of Conventional power plant.
- b) Describe importance of energy Audit.
- c) Explain biogas production using suitable diagram.
- d) Explain the need of Biomedical Waste management system.

**Q.4) Attempt any THREE of the following.**

**12 Marks**

- a) Explain benefits of energy management system.
- b) Explain limitations of wind power generation.
- c) Describe the procedure of energy audit.
- d) List the guide lines given by WHO to healthcare waste management.
- e) Describe about the different types of labels used for biomedical waste.

**Q.5) Attempt any TWO of the following.**

**12 Marks**

- a) Describe the present scenario of energy in Maharashtra and India.
- b) Explain the different sources of health care wastes.
- c) Explain in detail about the disposal of biomedical waste.

**Q.6) Attempt any TWO of the following.**

**12 Marks**

- a) Explain any two applications of solar energy system using neat and labeled diagram.
- b) Explain rules, regulation laws regarding environment protection.
- c) Describe the causes of health hazards of improper handling of medical waste in hospital.

**Scheme –I**  
**Sample Test Paper - I**

**Program Name** : Diploma in Medical Electronics  
**Program Code** : MU  
**Semester** : Fifth  
**Course Title** : Energy and Biomedical Waste Management  
**Marks** : 20

22549

**Time: 1 Hour**

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**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1 Attempt any FOUR.**

**08 Marks**

- a) List conventional energy sources.
- b) State law of conservation of energy.
- c) List various equipment required for energy audit.
- d) List the applications of solar cell system.
- e) State the limitations of wind energy.
- f) State the need of energy management.

**Q.2 Attempt any THREE.**

**12 Marks**

- a) Compare conventional and non conventional energy sources.
- b) Explain the working of wind turbine.
- c) Explain the procedure of biogas production from waste biomass.
- d) Explain different solar collectors and PV cell.
- e) Explain present scenario of energy in Maharashtra.

**Scheme –I**  
**Sample Test Paper - II**

**Program Name** : Diploma in Medical Electronics  
**Program Code** : MU  
**Semester** : Fifth  
**Course Title** : Energy and Biomedical Waste Management  
**Marks** : 20

22549

**Time: 1 Hour**

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**Instructions:**

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

**Q.1 Attempt any FOUR.**

**08 Marks**

- a) List different types of biomedical waste.
- b) Explain colour coding technique used for biomedical waste.
- c) List the components of pathological and microbiological waste.
- d) Define autoclaving and incineration.
- e) State different methods of waste collection.
- f) Discuss different health impact of biomedical waste.

**Q.2 Attempt any THREE.**

**12 Marks**

- a) Explain the importance of biomedical waste management.
- b) Explain waste management process.
- c) Explain plasma Pyrolysis method of waste management disposal.
- d) Discuss the precautionary measures taken for biomedical waste.
- e) List the guide line given by WHO to healthcare waste management.