

M.Sc. 2nd Semester Examination, 2023

ELECTRONICS

PAPER – ELC-204(A & B)(CBCS)

Full Marks : 50

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

(E-Waste)

[Marks : 25]

Time : 1 hour

1. Answer any *two* questions : 2 × 2
- (a) Define WEEE/E-waste. 2
- (b) What are the main sources of e-waste? 2

- (c) Mention the components of e-waste management. 2
- (d) What is EPR ? 2
2. Answer any *two* questions : 4 × 2
- (a) List the hazardous substances in e-waste. 4
- (b) Explain e-waste recycling process. 4
- (c) Describe e-waste management strategies. 4
- (d) Mention the salient features of e-waste (Management and Handling) rules 2011. 4
3. Answer any *one* question : 8 × 1
- (a) Describe the effects of e-waste on the environment and human health. 4 + 4
- (b) What was the Basel convention ? Describe the policy level initiatives are taken in India to handle e-waste. 3 + 5

[*Internal Assessment – 5 Marks*]

GROUP – B

(*Renewable Energy*)

[*Marks : 25*]

Time : 1 hour

4. Answer any *two* questions : 2 × 2
- (a) What do you mean by conventional energy ? 2
- (b) Explain with a neat sketch the energy flow diagram on the Earth. 2
- (c) What do you mean by clean energy and green energy ? 1 + 1
- (d) Write down the power and function of national green tribunal. 1 + 1
5. Answer any *two* questions : 4 × 2
- (a) With a neat sketch explain how a solar photo-voltaic system works. 1 + 3
- (b) What are the basic elements of a solar power system ? *Discuss.* 2 + 2

(c) Write down some applications of solar thermal systems. What is ecological foot print ? 2 + 2

(d) Explain how a steam engine works ? 4

6. Answer any *one* question : 8 × 1

(a) Define the term re-newable energy and non-renewable energy. Give some examples. What is energy trilemma index ? Write down various components of a solar power system and explain. 2 + 1 + 2 + 3

(b) What are the green-house gases ? How they are related with global warming ? What do you mean by green foot print and carbon foot print ? 2 + 2 + 2 + 2

[*Internal Assessment – 5 Marks*]
