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**23/VC/EL**

**2 0 2 3**

**ELECTRONICS**

( Vocational Course )

*Full Marks : 30*

*Time : 1 hour*

*The figures in the margin indicate full marks for the questions*

**1.** Choose the correct answer : 1×8=8

(a) Never operate electrical equipment while you are standing in/on

(i) table

(ii) ground

(iii) water

(b) Fleming's right-hand rule is applicable for

(i) motor

(ii) generator

(iii) both motor and generator

(c) In which part of juicer/mixer is OLP button located?

(i) Top

(ii) Bottom

(iii) None of the above

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- (d) \_\_\_\_\_ equipment and power sockets before removing the plug from the power source.
- (i) Switch off
  - (ii) Switch on
  - (iii) None of the above
- (e) The basic SI unit of magnetic field is
- (i) tesla
  - (ii) ohm
  - (iii) volts
- (f) \_\_\_\_\_ converts high-voltage electric energy to microwave radiation.
- (i) Waveguide
  - (ii) Magnetron
  - (iii) High-voltage diode
- (g) Which of the following is not a type of juicer?
- (i) Centrifugal juicer
  - (ii) Reamer
  - (iii) Microwave oven
- (h) The first food deliberately cooked with Spencer's microwave oven was
- (i) cake
  - (ii) popcorn
  - (iii) egg

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2. Answer the following questions in 1 word or in 1 sentence each (any four) :  $1 \times 4 = 4$

- (a) What is mixer/grinder?
- (b) Who discovered high-power microwave beam?
- (c) Write the formula of Lenz's law.
- (d) What is hazard?
- (e) What is the function of turnable motor in microwave?
- (f) Define relay.

3. Answer the following questions in 3 or 4 sentences each (any three) :  $2 \times 3 = 6$

- (a) Draw a circuit diagram for electromagnetic induction.
- (b) State Fleming's left-hand rule.
- (c) What are the causes when home fuse blows when a power cord is plugged into the wall receptable?
- (d) What are the solutions when mixer does not function at all speeds?
- (e) What do you understand by electric motor winding?

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4. Answer the following essay-type questions (any *three*) :  
4×3=12

- (a) What is an electric motor? Explain the working principle of motor with suitable diagram.
- (b) What is fuse? Describe the working principle of fuse with necessary diagram.
- (c) What are the seven common electrical hazards at your workplace that you are totally unaware of?
- (d) State the types of motor winding. Explain lap winding and wave winding with suitable diagram.
- (e) Describe the following cleaning procedure of a mixer/juicer :
  - (i) Cleaning of jar
  - (ii) Cleaning of base unit

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