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CCE RR/PF

NSQF LEVEL-2

**KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD,
MALLESHWARAM, BENGALURU - 560 003
NSQF LEVEL-2 EXAMINATION, JUNE, 2024
MODEL ANSWERS**

Date : 15. 06. 2024]

CODE NO. : **22-EK**

Subject : ELECTRONICS & HARDWARE

(English Medium)

(Regular Repeater / Private Fresh)

[Max. Marks : 60

Qn. Nos.	Value Points	Total
I.	Four alternatives are given for each of the following questions / incomplete statements. Choose the correct alternative and write the complete answer along with its question number and alphabet : 10 × 1 = 10	
1.	The device that converts electrical energy into mechanical energy is (A) Generator (B) Motor (C) Transformer (D) Inverter Ans. (B) Motor	1
2.	In Fleming's right hand rule, thumb indicates the (A) direction of current (B) direction of magnetic field (C) direction of induced current (D) direction of motion of the conductor Ans. (D) direction of motion of the conductor	1

CCE-II-RR/PF(A)/888/4066(MA)

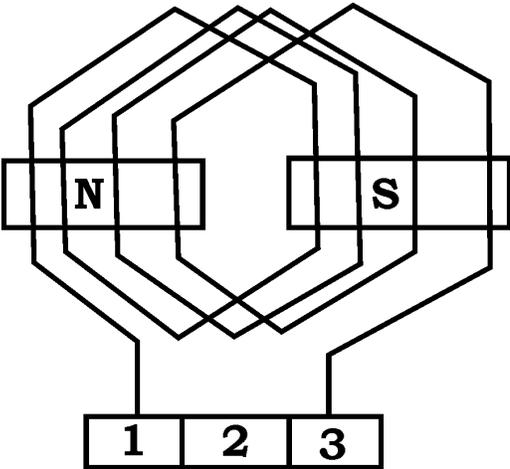
[Turn over

Qn. Nos.	Value Points	Total
3.	<p>The device used to avoid voltage fluctuations is</p> <p>(A) plug (B) switch</p> <p>(C) stabilizer (D) wire</p> <p>Ans. (C) stabilizer</p>	1
4.	<p>Which of the following is <i>not</i> a model of a mixer ?</p> <p>(A) Liquid whistle (B) Tilting model</p> <p>(C) Solid suspension (D) Static mixer</p> <p>Ans. (B) Tilting model</p>	1
5.	<p>The part of the microwave oven, which produces microwaves is</p> <p>(A) Grill (B) Waveguide</p> <p>(C) Magnetron (D) Stirrer fan</p> <p>Ans. (C) Magnetron</p>	1
6.	<p>The power consumed by microwave oven per 30 minutes is</p> <p>(A) 1400 W (B) 2200 W</p> <p>(C) 800 W (D) 1200 W</p> <p>Ans. (D) 1200 W</p>	1
7.	<p>Which among the following is an <i>e-waste</i> in microwave oven ?</p> <p>(A) Transformer (B) Lamp</p> <p>(C) Glass (D) Fan</p> <p>Ans. (A) Transformer</p>	1

Qn. Nos.	Value Points	Total	
8.	In microwave oven circuit the component used to withstand high voltage is (A) high voltage transformer (B) high voltage capacitor (C) high voltage diode (D) high voltage transistor Ans. (C) high voltage diode		1
9.	Type of a juicer used to squeeze juice from oranges is (A) Juicing press (B) Reamer (C) Centrifugal juicer (D) Triturating juicer Ans. (B) Reamer		1
10.	The device used to check the continuity of the power cord is (A) Ammeter (B) Voltmeter (C) Wattmeter (D) Multimeter Ans. (D) Multimeter		1
II. Fill in the blanks with suitable answer : 4 × 1 = 4			
11.	Microwave oven is designed to work for almost hours per day. Ans. 16		1
12.	Microwave oven cannot heat Ans. Oils		1

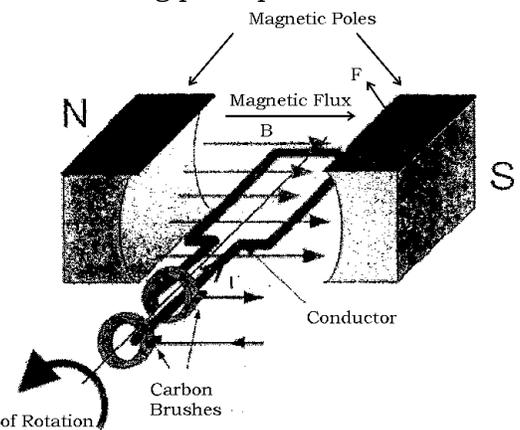
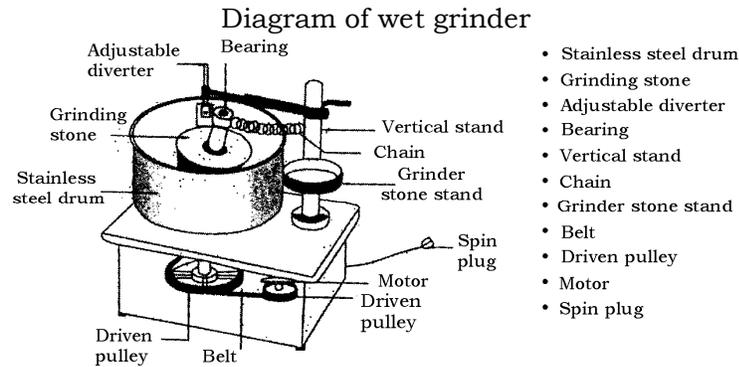
Qn. Nos.	Value Points	Total																	
13.	OLR stands for Ans. Overload relay		1																
14.	We use helmet to avoid Ans. Head injury		1																
III.	Electrical quantities are given in Column-A and their SI units are given in Column-B. Match them and write answer with alphabet : $4 \times 1 = 4$																		
15.	<table border="1" data-bbox="397 1035 1144 1486"> <thead> <tr> <th data-bbox="397 1035 846 1094">Column-A</th> <th data-bbox="846 1035 1144 1094">Column-B</th> </tr> </thead> <tbody> <tr> <td data-bbox="397 1094 846 1150">(i) Electric current</td> <td data-bbox="846 1094 1144 1150">(a) ohm</td> </tr> <tr> <td data-bbox="397 1150 846 1207">(ii) Electrical energy</td> <td data-bbox="846 1150 1144 1207">(b) watt</td> </tr> <tr> <td data-bbox="397 1207 846 1264">(iii) Electric power</td> <td data-bbox="846 1207 1144 1264">(c) second</td> </tr> <tr> <td data-bbox="397 1264 846 1320">(iv) Resistance</td> <td data-bbox="846 1264 1144 1320">(d) joule</td> </tr> <tr> <td data-bbox="397 1320 846 1377"></td> <td data-bbox="846 1320 1144 1377">(e) ampere</td> </tr> <tr> <td data-bbox="397 1377 846 1434"></td> <td data-bbox="846 1377 1144 1434">(f) coulomb</td> </tr> <tr> <td data-bbox="397 1434 846 1486"></td> <td data-bbox="846 1434 1144 1486">(g) volt</td> </tr> </tbody> </table> <p data-bbox="397 1507 641 1755">Ans : (i) (e) ampere (ii) (d) joule (iii) (b) watt (iv) (a) ohm</p>	Column-A	Column-B	(i) Electric current	(a) ohm	(ii) Electrical energy	(b) watt	(iii) Electric power	(c) second	(iv) Resistance	(d) joule		(e) ampere		(f) coulomb		(g) volt	1 1 1 1	4
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Qn. Nos.	Value Points	Total	
IV.	Answer the following questions : 6 × 1 = 6		
16.	What is a wet grinder ?		
	Ans.		
	Wet grinders are used to make pastes from grains and rice, such as those used in cooking dosas and idlys.	1	1
17.	List the models of microwave oven.		
	Ans.		
	Solo microwave oven	½	
	Grill microwave oven	½	
	Conventional microwave oven. (Any two)		1
18.	Write any two parts of mixer jar.		
	Ans.		
	Jar blade		
	Glass or stainless steel jar with rim.		
	Rubber ring	½	
	Locking rid	½	
	Metal jar shaft. (Any two)		1

Qn. Nos.	Value Points	Total	
19.	<p>Write another name of juicing press.</p> <p>Ans.</p> <p>Fruit press</p> <p>Wine press (Any one)</p>		1
20.	<p>Write the function of solo microwave oven.</p> <p>Ans.</p> <p>Solo microwave oven can be only used for cooking and reheating.</p>		1
21.	<p>We should not wear a loose dress while working. Why ?</p> <p>Ans.</p> <p>It may get stuck into the device.</p>		1
V.	<p>Answer the following questions : 6 × 2 = 12</p>		
22.	<p>Draw the diagram of duplex lap winding.</p> <p>Ans.</p> 	<p>1</p> <p>1</p>	2

Qn. Nos.	Value Points	Total	
23.	<p>How do you test the power cord ?</p> <p>Ans.</p> <ol style="list-style-type: none"> 1. Disconnect the power cord from the supply 2. Check the continuity of the power cord by using multimeter 3. Change the power cord if there is no continuity. 	<p>½</p> <p>1</p> <p>½</p>	<p>2</p>
24.	<p>Mention any two uses of fibre optic cable.</p> <p>Ans.</p> <p>The uses of fibre optic cables are :</p> <ol style="list-style-type: none"> 1. They are designed for long distance communication 2. It provides higher band width and can transmit data over longer distance. <p style="text-align: center;">OR</p> <p>List any four applications of DC motor.</p> <p>Ans.</p> <p>The applications of DC motor are</p> <ol style="list-style-type: none"> 1. Centrifugal pumps 2. Lathes 3. Cranes 4. Electric trains 5. Lifts 6. Conveyors. (any four) 	<p>1</p> <p>1</p> <p>½</p> <p>½</p> <p>½</p> <p>½</p>	<p>2</p> <p>2</p>

Qn. Nos.	Value Points	Total
<p>VII.</p> <p>32.</p>	<p>Answer the following questions : 3 × 4 = 12</p> <p>Draw the diagram showing the working principle of relay and label the following parts :</p> <p>(i) Movable armature (ii) Electromagnet</p> <p>Ans.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> </div> <p style="text-align: right;">(i) movable armature (ii) electromagnet</p>	<p style="text-align: center;">3 ½ ½</p> <p style="text-align: center;">4</p>
OR		

Qn. Nos.	Value Points	Total	
	<p>Explain the working principle of motor with the help of a diagram.</p> <p>Ans.</p> <p style="text-align: center;">Working principle of motor</p>  <p>Working principle :</p> <p>"Whenever a current carrying conductor is placed in a magnetic field it experiences a mechanical force".</p>	3	
33.	<p>Draw the diagram of wet grinder and label the following parts :</p> <p>(i) Driving pulley (ii) Grinding stone (iii) Bearing</p> <p>Ans.</p> <p style="text-align: center;">Diagram of wet grinder</p>  <ul style="list-style-type: none"> • Stainless steel drum • Grinding stone • Adjustable diverter • Bearing • Vertical stand • Chain • Grinder stone stand • Belt • Driven pulley • Motor • Spin plug <p>(i) Driving pulley (ii) Grinding stone (iii) Bearing</p>	1	4

Qn. Nos.	Value Points	Total	
34.	<p>Write the measures to be taken for cleaning and maintenance of the microwave oven.</p> <p>Ans.</p> <p>The following steps are to be followed while cleaning the microwave oven.</p> <ol style="list-style-type: none"> 1. Before cleaning check the supply is in off condition. 2. Do not use water or liquid cleaners 3. Use soft sponge for cleaning the microwave oven 4. Use baking soda and vinegar for complete cleaning 5. Don't close the door too hard. 6. Use pot holders for handling containers that the inside the microwave oven. 7. Don't dry non-food items in the oven 8. Don't allow the control panel to become wet. <p style="text-align: center;">OR</p> <p>Write the steps to perform the basic tests in microwave oven.</p> <p>Ans.</p> <p>The steps to perform basic test are :</p> <ol style="list-style-type: none"> 1. Microwave oven consists of features like displaying the input power, volt-ampere rating and whether the earthing is in proper condition. 2. It can be seen in microwave oven display by changing the settings. 3. In case of any fault in the control unit, it indicates in the display. 4. If display shows the fault, unplug the microwave oven. 5. Wear shoes and gloves. 6. With the help of multimeter check the power supply, volt-ampere test and earth test. 7. If there is a fault replace it. 	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>	<p>4</p> <p>4</p>