


Government of Karnataka

Karnataka Secondary Education Examination Board

# Question Paper

## ANSWER KEY

# A

# CCE RF
## Revised Syllabus

## NSQF LEVEL-2

**KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD,**
**MALLESHWARAM, BENGALURU – 560 003**
**NSQF LEVEL-2, MARCH/APRIL 2025 EXAMINATION-1**

## MODEL ANSWERS

Date : 04. 04. 2025 ] **CODE NO. : 22-EK**

## Subject : ELECTRONICS & HARDWARE

**( English Medium )**
**( Regular Fresh )**

[ Max. Marks : 60

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | **PART-A** | | |
| **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 :**<br>**3 × 1 = 3** | | |
| 1. | "Sham bought a pen. He has a great pen collection". The pronoun in this sentence is<br>(A) Sham (B) bought<br>(C) He (D) has<br>**Ans.** (C) He | | 1 |
| 2. | Ravi works hard to get the best student award at the end of year. What type of motivation is this ?<br>(A) Internal (B) External<br>(C) Emotional skill (D) Overconfidence<br>**Ans.** (B) External | | 1 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| 3. | The valid file extension for notepad file is<br>(A) .jpg (B) .doc<br>(C) .text (D) .txt<br>**Ans.** (D) .txt | | 1 |
| **II.** | **Answer the following questions : 2 × 1 = 2** | | |
| 4. | Why is 'enter key' used in computer ?<br>**Ans.**<br>It is one of the most important functional keys in the computer to move the cursor to the beginning to a new line.<br>In some programs, it is used to send commands and to conform a test on a computer. | | 1 |
| 5. | Write any two basic ways in which people can help for sustainable development of goals.<br>**Ans.**<br>i) Quality education<br>ii) Clean water and sanitation<br>iii) Affordable and clean energy<br>iv) Decent work and economic growth<br>v) Reduce inequalities. ( any *two* ) | ½<br>½ | 1 |
| **III.** | **Answer the following questions : 2 × 2 = 4** | | |
| 6. | What is time management ?<br>**Ans.**<br>Time management is the ability to plan and control, how you spend the hours of your day well and do all that you want to do.<br>**OR** | | 2 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | How do you find your weakness ?<br>**Ans.**<br>i) Point out the areas, where you struggle and the things you find difficult to do.<br>ii) Look at the feedback others usually give you.<br>iii) Be open to feedback and accept your weakness without feeling low about it. Take it as an area of improvement. ( any *two* ) | 1<br>1 | 2 |
| 7. | Mention four qualities one should have to become a successful entrepreneur.<br>**Ans.**<br>i) He/she must believe in her/him-self. and He/she should be confident and take business decisions.<br>ii) If the idea did not work but it is okay then keep trying new ideas.<br>iii) Running his/her business is difficult, but he/she is patient because He/she knows that success will come soon.<br>iv) He/she a creative and different solution to the problem that is why she/he successful. ( any *four* ) | ½<br>½<br>½<br>½ | 2 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| **IV.** | **Answer the following question : 1 × 3 = 3** | | |
| 8. | Explain the meaning of verbal communication, its advantages and disadvantages.<br>**Ans.**<br>Verbal communication includes sounds, words, language and speech. Speaking is one of the most effective and commonly used ways of communicating. It helps in expressing our emotions in words. | 1 | |
| | Advantages :<br>i) It is an easy mode of communication in which you can exchanging ideas by saying what you want and get a quick response. | 1 | |
| | ii) Verbal communication also enables you to keep changing your interaction as per the other person's response. | 1 | |
| | Disadvantages :<br>i) It depends on written or spoken words. Sometimes the meaning can be confusing and difficult to understand if the right words are not used. | | 3 |
| | **PART-B** | | |
| **V.** | ***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 :**<br>**7 × 1 = 7** | | |
| 9. | A passive electronic component in the following is<br>(A) Diode (B) Transistor<br>(C) Resistor (D) Integrated circuit<br>**Ans.** (C) Resistor | | 1 |

| Qn. Nos. | Value Points | Total |
|---|---|---|
| 10. | Stabilizer is used for the purpose of<br>(A) Increasing the voltage only<br>(B) Decreasing the voltage only<br>(C) Bringing the voltage to zero<br>(D) Avoiding voltage fluctuation<br>**Ans.** (D) Avoiding voltage fluctuation | 1 |
| 11. | The alternate name of Reamer type Juicer is<br>(A) Manual Juicer (B) Cold Press Juicer<br>(C) Twin gear Juicer (D) Wine-press Juicer<br>**Ans.** (A) Manual Juicer | 1 |
| 12. | Slow movement of a rotating shaft is sensed by<br>(A) Blade (B) ZSS<br>(C) OLR (D) Multimeter<br>**Ans.** (B) ZSS | 1 |
| 13. | The part of microwave oven, which produces microwaves is<br>(A) Grill (B) Stirrer fan<br>(C) Waveguide (D) Magnetron<br>**Ans.** (D) Magnetron | 1 |
| 14. | The part of the microwave oven that maintains the temperature of the magnetron is<br>(A) Blower fan (B) Stirrer fan<br>(C) Diode (D) Transformer<br>**Ans.** (A) Blower fan | 1 |

| Qn. Nos. | Value Points | Total |
|---|---|---|
| 15. | A conducting material in the following is<br>(A) Glass (B) Silver<br>(C) Wood piece (D) Rubber<br>**Ans.** ( B ) Silver | 1 |
| **VI.** | **Fill in the blanks with suitable answer : 4 × 1 = 4** | |
| 16. | The type of cable used in the distant communication is ..... .<br>**Ans.**<br>Optical fiber | 1 |
| 17. | In the microwave oven ..... part of the cooking cavity shows the progress of the food that is being cooked.<br>**Ans.**<br>Cavity lamp | 1 |
| 18. | O.L.R. stands for ..... .<br>**Ans.**<br>Over Load Relay | 1 |
| 19. | Poor wiring system can cause ..... .<br>**Ans.**<br>Overheating and fires | 1 |

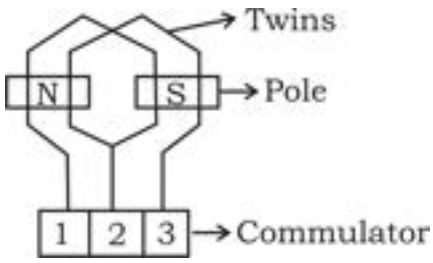
| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| **VII.** | **Mixer parts are given in Column-A and their functions are given in Column-B. Match them and write the answer with alphabet : 4 × 1 = 4** | | |
| 20. | | | |

| Column-A | Column-B |
|---|---|
| i) Power cable | a) Transfers rotating movements to the Jar |
| ii) Speed setting switch | b) Carries electrical power to the mixer |
| iii) Power indicator | c) A vessel which contains a blade to grind the food |
| iv) Field and armature | d) Varies the speed of mixer |
| | e) Indicates the availability of mixer |
| | f) Motor gives rotating movement to the Jar |
| | g) Grinds food items |

**Ans :**

| | | | | |
|---|---|---|---|---|
| i) | b) | Carries electrical power to the mixer | 1 | |
| ii) | d) | Varies the speed of mixer | 1 | |
| iii) | e) | Indicates the availability of mixer | 1 | |
| iv) | f) | Motor-gives rotating movement to the Jar | 1 | 4 |
| **VIII.** | | **Answer the following questions : 4 × 1 = 4** | | |
| 21. | | Draw the diagram of Simplex Lap winding. | | |

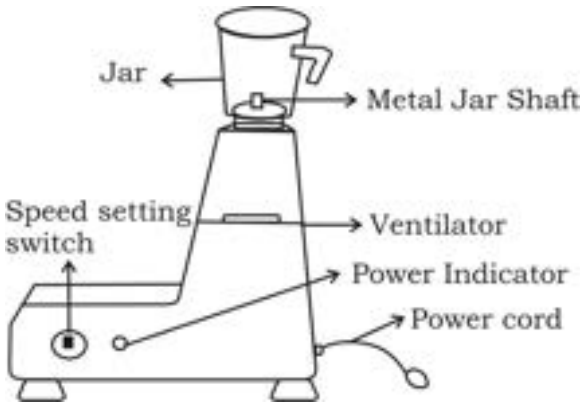
**Ans.**



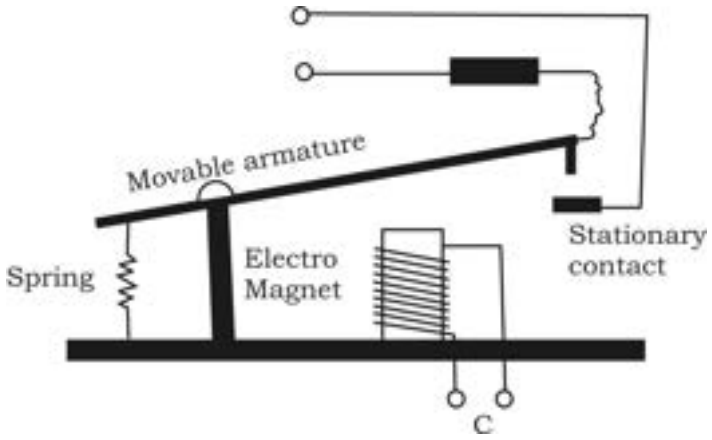

1 | 1

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| 22. | What is a Juicer ? | | |
| | **Ans.** | | |
| | A juicer is a juice extractor. It crushes, grinds, and squeezes the juice out of the pulp. | | 1 |
| 23. | What is solo microwave oven ? | | |
| | **Ans.** | | |
| | Solo microwave oven is a model of Microwave oven used for cooking and reheating. | | 1 |
| 24. | Which part directs the production of microwaves in the magnetron of a microwave oven ? | | |
| | **Ans.** | | |
| | Waveguide | | 1 |
| **IX.** | **Answer the following questions : 4 × 2 = 8** | | |
| 25. | Name any four types of circuit breakers. | | |
| | **Ans.** | | |
| | i) Miniature case Circuit Breaker ( MCB ) | ½ | |
| | ii) Air blast circuit breaker | ½ | |
| | iii) Oil circuit breaker | ½ | |
| | iv) $Sf_6$ circuit breaker | ½ | |
| | v) Vacuum circuit breaker | | 2 |
| 26. | Describe high voltage transformer in the microwave oven. | | |
| | **Ans.** | | |
| | High voltage transformer plays a major role in Microwave oven : | | |
| | ❖ It supplies sufficient amount of energy to the magnetron to generate the microwaves. | | |
| | ❖ Also drives the filament for the magnetron. | | 2 |
| | **OR** | | |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | Mention the causes for the timing problem in microwave oven. | | |
| | **Ans.** | | |
| | i) Defect in control unit | 1 | |
| | ii) Defect in AH sensor. | 1 | 2 |
| 27. | A Microwave oven is working but food is not getting heated up. Mention the reasons for this. | | |
| | **Ans.** | | |
| | i) Shorted or open wiring | ½ | |
| | ii) Fault in magnet | ½ | |
| | iii) Power transformer problem | ½ | |
| | iv) Problem in H. V. capacitor | ½ | |
| | v) Fault in primary interlock system. ( any *four* ) | | 2 |
| 28. | List the safety procedures to be followed during repair of the electric devices. | | |
| | **Ans.** | | |
| | i) Check whether the connection is in off state | | |
| | ii) Cut off the power supply before changing the fuse | | |
| | iii) Wear gloves & shoes | | |
| | iv) Use the appropriate device for repairing | 1 | |
| | v) After repairing, close the appliances properly before checking | | |
| | vi) Keep the phones, first aid box & fire extinguisher nearby | | |
| | vii) There should be proper ventilation in the work place | 1 | 2 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| **X.** | **Answer the following questions :** **3 × 3 = 9** | | |
| 29. | 'YOKE' is an important part in the motor. Justify. | | |
| | **Ans.** | | |
| | i) Yoke of the motor is made up of cast iron or steel. | | |
| | ii) It is an integrated part of the stator & static part of motor | | |
| | iii) It gives protective covering over the sophisticating parts of the motor and provides support to the armature. | | 3 |
| 30. | Draw the diagram of mixer and label the parts. | | |
| | **Ans.** | | |
| |  | 1<br>1<br>½<br>½ | 3 |
| 31. | List the 3 parts of the cooking cavity in the microwave oven and explain their functions. | | |
| | **Ans.** | | |
| | i) <u>Cooking chamber</u> : It is used to keep the output radiation within the limit due to that the food gets heated. | ½<br>½ | |
| | ii) <u>Cavity Lamp</u> : Used to show the progress of the food that is being cooked in the Microwave oven. | ½<br>½ | |
| | iii) <u>Turntable motor</u> : It rotates the food so that the heat is evenly spread. | ½<br>½ | 3 |
| | **OR** | | |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | List the causes for the display problem in microwave oven and explain them.<br>**Ans.**<br>i) Defect in control unit :<br>This is mainly due to the disconnection of the electronic components in the circuit board.<br>ii) Defect in temperature fuse :<br>Temperature fuse in a microwave oven can be blown sometimes due to overheating or when the temperature exceeds the actual rating of the temperature.<br>iii) Defect in shorted or open wiring :<br>This is due to the fault in the shorted or open wiring in the microwave oven. In such cases the continuity of the wires needs to be checked by using a digital multimeter.<br>iv) Defect in Monitor switch:<br>This may be due to the use of fault monitor switch. In such cases the faulty monitor needs to be replaced by a service technician. ( any 3 ) | | 3 |
| **XI.** | **Answer the following questions : 3 × 4 = 12** | | |
| 32. | Draw the diagram of Relay and label the following parts :<br>i) Movable armature<br>ii) Static contact<br>iii) Electromagnet<br>iv) Spring | | |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | **Ans.**<br><br> | | 4 |
| 33. | List any four components of Juicer and explain about each of them. | | |
| | **Ans.** | | |
| | i) <u>Motor</u> : Motor is the machine which makes the other juicer is parts to move to perform their functions. It is powered by electricity to create mechanical movements. | ½<br>½ | |
| | ii) <u>Base housing</u> : It is the body of the juicer. | ½ | |
| | iii) On/OFF Switch: It is used to turn On & Off the juicer. It controls speed numbers. | ½<br>½ | |
| | iv) <u>Power cord</u> : It connects the juicer to a power outlet. | ½<br>½ | |
| | v) <u>Juice container</u> : Juice container is the part where finished product would go and it is ready for drinking. ( Any *four* ) | ½ | 4 |
| | **OR** | | |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | List the factors confirming the proper functioning of the repaired unit of the grinder.<br>**Ans.**<br>i) <u>Leaking mixer grinder</u> :<br>Leaking proves to be one of the most ordinary grinder problems. To correct it, you first need to check the blade gathering and ensure that it is tightly screwed onto the jar. Another reason for a leaking mixer could be problem with the rubber gasket. Leaking can also result due to a crack in the jar and in this case you may need to replace the jar altogether.<br>ii) <u>Struck buttons of the mixer grinder</u> :<br>This generally happens when food & liquids leak a little bit and enter the space in the buttons. To correct this issue, you have to unplug the appliance & give it a nice careful cleaning.<br>Take an old toothbrush for enhanced cleaning.<br>iii) <u>Slow moving blades</u> :<br>In this case the food & liquids take a long time to get mixed or churned. In most of the cases. This problem is caused due to food particles bottleneck the blade gathering. We, just have to disassemble the blade assembly & soak the parts in soapy water which is slightly warm for another half an hour. Scrub the parts properly and reassemble them all. | 1½<br>1<br>1½ | 4 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| 34. | Write the step by step assembling procedure of the microwave oven.<br>**Ans.**<br>Assembling procedure :<br>i) Make sure that all parts are neat and clean.<br>ii) Place the oven base at a flat surface.<br>iii) Place the required tools nearer to the work place.<br>iv) Before assembling check all the equipment are in working condition.<br>v) Connect and check power supply circuit.<br>vi) Fix the cooking cavity in the base.<br>vii) Fix the control panel and verify its connection.<br>viii) Fix the blower fan, stirrer and grill in the appropriate position.<br>ix) Fix the upper moulding cover.<br>x) Give the supply. Verify the operation of Microwave oven. ( any 8 orderly )<br>**OR**<br>List the cleaning and maintenance process of the microwave oven.<br>Ans.<br>i) Before cleaning check the supply is in off condition.<br>ii) Do not use water/liquid cleaners<br>iii) Use soft sponge for cleaning the microwave oven<br>iv) Use baking soda & vinegar for complete cleaning.<br>v) Don't close the door too hard. | | 4 |

| Qn. Nos. | Value Points | Total | |
|---|---|---|---|
| | vi) Use pot holders for handling containers that are inside the microwave oven.<br>vii) Don't dry non-food items in the microwave oven use longer.<br>viii) Repeat the process to maintain the microwave oven use longer.<br>ix) Keep the inside of the oven clean.<br>x) Don't allow the control panel to become wet.<br>( any 8 orderly ) | | |

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- [ ] Class 7 Notes
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