

GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination

JUNE 2021

INTERMEDIATE LEVEL

Specialty Name (Specialty Acronym)	CARPENTRY AND JOINERY
Subject Title	CARPENTRY
Subject Code No.	5500
Paper No.	2

Duration: THREE HOURS

- This Paper has **SEVEN QUESTIONS** in three **SECTIONS**. You are expected to **ANSWER FIVE QUESTIONS** selected as follows:
- Two from **SECTION A**.
- Two from **SECTION B**.
- Section C has **ONE COMPULSORY QUESTION**.
- **ALL QUESTIONS CARRY EQUAL MARKS**.
- Read the questions carefully before answering.
- Use sketches and diagrams where necessary.
- Written answers should be brief and straight to the point.
- You are allowed to use drawing instruments and calculators
- This paper shall be evaluated on 70 marks and weighted as 35% of the total subject's marks

You are reminded of the necessity for good English and orderly presentation of work required and neatness.

Turn Over

SECTION A

- 1) The knowledge of materials is the most important aspect of technology which helps in handling, storage and application process.
 - a) In relation to adhesives, differentiate between the terms adhesion and cohesion. (3 marks)
 - b) Define defects and sketch two examples of each class. (4 marks)
 - c) Define abrasive and give the various forms and types. (4 marks)
 - d) Differentiate between fibre saturated point and equilibrium moisture content. (3 marks)

- 2) The workshop is very important work place to a woodworker.
 - a) Describe how you shall place your work benches, tool kits or lockers and materials in the workshop. (3 marks)
 - b) State three personal safety precautions that must be practice in the workshop. (4 marks)
 - c) Give four general safety rules in the workshop. (4 marks)
 - d) Explain how ventilation and lighting can be put in place (3 marks)

- 3) Machine tools are power operated tools or tools which operate when a source of energy is introduced.
 - a) Identify the six different classes of woodwork machines. (3 marks)
 - b) In each class state at least two types of machines and their operations or functions. (6.5 marks)
 - c) What are the primary and secondary functions of the following machines?
 - Cross cut or the radial arm saw
 - The surface planer or surfacer
 - The spindle moulder
 (4.5marks)

SECTION B

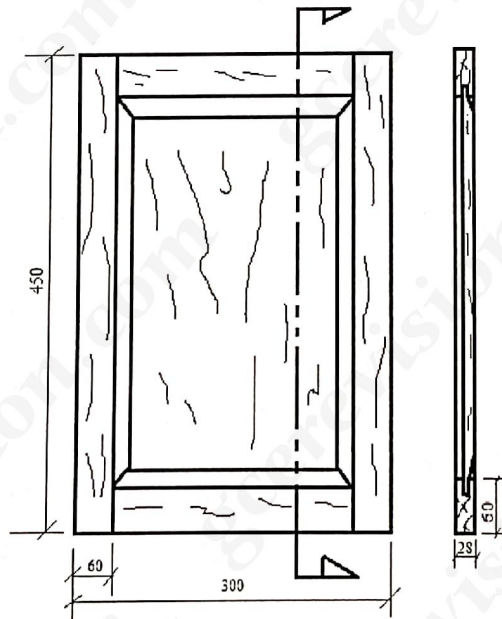
- 4) Door frames, linings, windows and shutters have become a major contract to most newly graduated students of first cycle secondary collages.
 - a) Sketch a horizontal section of a door shutter and indicate the following
 - Stock mould
 - Bolection mould
 - Raised panel
 - Planted mould
 (5 marks)
 - b) Describe with sketches, three methods of fixing skirting to walls (4.5 marks)
 - c) With the aid of a sketch, represent a partly louvered shutter and indicate where it can be used. (4.5 marks)

- 5) Wood joints construction is the secret of joinery. It determines the quality of all cabinets.
- List four methods by which woodwork joints can be reinforced (consolidated). (4 marks)
 - Give the function of the spiral grooves cut on the dowel pins. (2 marks)
 - Sketch a blind dado joint and state two places where it can be applicable. (4 marks)
 - What are corrugated fasteners and on what joints can they be applied? (4 marks)
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- 6) The construction and installation of cabinet is the most expected competence from a carpentry and joinery student at the end of ITVE examination.
- Outline four tools when installing a butt hinge on a cabinet. (2 marks)
 - What is a gain? Give the main function of a gain when installing hinges. (3 marks)
 - With the help of sketches, illustrate three different methods of supporting or mounting shelves on cabinets. (6 marks)
 - Sketch a plinth and show how it is secured to a cabinet. (3 marks)
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SECTION C

- 7) The inspector for woodwork constructed a house and desires to furnish the rooms with bedside cabinets. The shutter of a bedside cabinet measures 450 x 300 x 28 mm. you are requested to;

Figure 1



- Establish a cutting list for twenty (20) shutters. (6 marks)
 - Determine the volume of timber required for the shutters. (2 marks)
 - Determine the number of boards if a board measures 4000 x 300 x 30 mm. (4 marks)
 - Calculate the total cost of wood given that timber cost 8500 FRS per board. (2 marks)
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