Department of Mechanical Engineering, IIT Guwahati
ME110 WORKSHOP – I | QUIZ 1 | April 24, 2021

Duration: 25 minutes
Total marks: 55

Instructions:

- **Answer all the questions in PART A and Part B**
- **Draw figures wherever required**
- **Use empty white paper for answering**
- **WRITE ROLL NUMBER AND NAME IN ALL THE PAGES**

PART A [A1 to A23] **23 × 2 = 46 marks**

[A1] State the difference between the terms 'casting' and foundry'.

[A2] Mention 5 important steps in casting a product in appropriate sequence.

[A3] State the difference between cope and drag.

[A4] What happens when riser is not provided during casting?

[A5] What is sprue in casting?

[A6] What happens if vent hole is not provided during casting? In which part of the flask it is provided?

[A7] State the difference between marking gauge and mortise gauge in carpentry.

[A8] A steel rule is used to check squareness and marking of joints. **(i) TRUE or (ii) FALSE**. If **FALSE**, _____ is used for the purpose.

[A9] How will you clamp a workpiece by rotating handle of carpentry vice?

[A10] What is the name of the wooden tool shown in Figure 1?

FIGURE 1

[A11] In a claw hammer, the main use of claw is to _____ .

[A12] In a hacksaw, the tension in the blade is adjusted by (A) a setter, (B) prongs, (C) handle, (D) screw and nut.

[A13] Name any TWO measuring devices used for measuring linear dimensions.

[A14] State the difference between saw and chisel in carpentry.

[A15] What is the role of scriber in fitting? What material is it made from ?

[A16] _____ device is used to measure height of projections.

[A17] In fitting, _____ are used for filing circular holes, curved surfaces and finishing fillets.

[A18] Name three striking tools (hammers) used in fitting.

[A19] What is the difference between a drill bit and a tapping tool ?

[A20] In fitting, surface plate is used for _____ .

[A21] Which tool is used to make external thread on a round metal rod in fitting operations?

[A22] Mild steel has _____ carbon percentage in it.

[A23] _____ is inserted into the mold during casting to fabricate internal through hole in a metallic cylinder.

PART B [B1 & B2] **9 Marks**

[B1] Draw any TWO different ways of making a casting mold for a simple bushing (Figure 2).

[4 Marks]

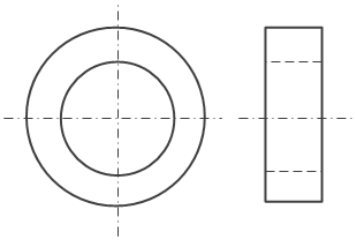

FIGURE 2

[B2] Draw a schematic layout of a casting process, indicating *flask, cope, drag, sprue, pouring basin, runner, mold cavity, sand, and parting line*. (View should show the drag and cope).

[5 Marks]

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