

312313

24225

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE :

10

- (a) Give classification of lathe machine.
- (b) Explain in brief mechanics of chip formation.
- (c) Enlist different milling operation (any four).
- (d) Classify Indexing method.
- (e) Give different material used for pattern making (any four).
- (f) State the applications of rolling (any four).
- (g) Define brazing.



2. Attempt any THREE :**12**

- (a) Explain with neat sketch thread cutting operation on lathe machine.
- (b) Differentiate between Up-milling and Down-milling.
- (c) Explain various Oxy-acetylene gas flames with neat sketches.
- (d) State importance of colour codes used on pattern. Illustrate a common colour code.

3. Attempt any THREE :**12**

- (a) Explain four high roll mill with neat sketch.
- (b) Draw a neat sketch of gating system. State the function of any four elements.
- (c) What is universal dividing head ? State it's function.
- (d) Explain soldering process with neat sketch.

4. Attempt any THREE :**12**

- (a) State different safety precautions to be followed in foundry.
- (b) Explain investment casting process with neat sketch.
- (c) Explain following press working operation (i) Drawing (ii) Punching.
- (d) With neat sketch, explain upset forging operation.
- (e) Determine speed in rpm of 20 mm diameter drill for cutting steel at 24 m/min surface speed. Estimate time required to drill a hole of 45 mm at a feed rate of 0.20 mm/rev.

5. Attempt any TWO :**12**

- (a) Draw a neat labelled sketch of sensitive drilling machine and give function of different parts.
- (b) Explain any three types of milling cutters with neat sketch.
- (c) Draw a neat sketch of 'MIG' Welding process, explain working and state it's applications.

6. Attempt any TWO :**12**

- (a) List the various lathe operations & explain any two in detail.
 - (b) Draw the neat sketch of column & knee type milling machine and give function of different parts.
 - (c) Give causes and remedies for different welding defects.
-

