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12425
3 Hours / 70 Marks

Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

(5) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. Attempt any FIVE of the following : **10**

(a) Define machining process.

(b) State any two types of milling operations.

(c) Enlist any four properties of molding sand.

(d) State any four advantages of forging process.

(e) Define welding process.

(f) List any four parts of drilling machine.

(g) State any four welding defects.

2. Attempt any THREE of the following : **12**

(a) Describe oxy acetylene welding process with neat sketch.

(b) Explain any four types of milling cutters used in milling operations.

(c) Describe pattern colour coding.

(d) Compare open die and closed die forging on the basis of any four points.

3. Attempt any THREE of the following : **12**

(a) Write down basic parts of lathe machine with their function.

(b) Suggest suitable cutting tool for the following operation :

(1) Plain milling

(2) Straddle milling

(3) Face milling

(4) Gang milling

(c) Explain centrifugal casting process with neat sketch.

(d) Classify welding process.

4. Attempt any THREE of the following : **12**

(a) Explain with neat sketch thread cutting operation on lathe machine.

(b) Why indexing is essential in milling operation of gears ?

(c) Give the basic steps in making pattern.

(d) Describe working principle of milling machine with neat sketch.

(e) Compare brazing and soldering on the basis of

(1) Temperature used

(2) Filler material

(3) Joint strength

(4) Applications'

5. Attempt any TWO of the following : **12**

(a) Describe following types of chips with neat sketches :

(i) Continuous chip

(ii) Discontinuous chip

(iii) Continuous chip with build up edges

(b) Describe any three casting defects, their causes and remedies.

(c) Describe MIG welding process with neat sketch. Write their advantages and disadvantages.

6. Attempt any TWO of the following : **12**

(a) Describe upmilling and downmilling process with necessary sketches.

(b) Describe following operations performed on press with neat sketch :

(i) Blanking

(ii) Punching

(iii) Lancing

(c) Describe lathe machines on the basis of the following :

(i) Diagram

(ii) Constructional details

(iii) Operations performed