



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : PC-ME601 Manufacturing Technology

UPID : 006653

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[1 x 10 = 10]

- (I) What is selective assembly in manufacturing?
- (II) What are the advantages and disadvantages of CNC machines over NC machines?
- (III) G Code used to cancel cutter compensation is
- (IV) What is the full form of FDM in rapid prototyping process?
- (V) Press tools are generallyworking process.
- (VI) What is surface measurements in metrology?
- (VII) What are the tools and instruments in metrology?
- (VIII) What are the main objectives of environmental design?
- (IX) What is EOB in CNC programming?
- (X) What is G90 in G-code?
- (XI) Why copper is generally used as electrode in EDM process?
- (XII) List different types of errors in Gear.

Group-B (Short Answer Type Question)

Answer any three of the following :

[5 x 3 = 15]

2. Describe the principle of "Interference " with sketch. [5]
3. Develop the design factors to be considered for redesign of casting based on parting line consideration with suitable sketch. [5]
4. How does the performance of an HSS tool differ from that of a ceramic tool? [5]
5. Explain how the straightness of lathe bed may be checked by using spirit level. [5]
6. Calculate diameter of best wire for a withworth thread of M24 x 7 mm size. [5]

Group-C (Long Answer Type Question)

Answer any three of the following :

[15 x 3 = 45]

7. (a) Differentiate between Precision and accuracy. [5]
(b) Explain the wringing of Slip gauges with neat sketch. [10]
8. (a) What are the principles of Design for Manufacture and Assembly? [5]
(b) What are the advantages of Design for Manufacture and Assembly? [7]
(c) What is Design for Manufacture and Assembly? [3]
9. (a) What the reaction are possible in cathode (tool) and anode (workpiece) in ECM process? (Assume electrolyte NaCl). [7]
(b) What are the operations performed in ECM ? [3]
(c) Explain types of plasma arc system. [5]
10. (a) Distinguish between Line Standard and end Standard. [5]
(b) Describe the procedure of measurement of tooth thickness using constant chord method with neat sketch. [10]
11. (a) What are the elements of associated to CNC part program [5]
(b) What are the advantages of Manual part programming? [5]
(c) Explain the Microprogram control unit. [5]

*** END OF PAPER ***