



## 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 generally .....working 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 \*\*\*