

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014

Subject Code: 163403

Date: 23-05-2014

Subject Name: Advanced Manufacturing Processes

Time: 10:30 am - 01:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain in which areas, the unconventional manufacturing methods are superior than conventional Manufacturing methods. Also state the demerits. (07)
- (b)** How the developments in the Mfg. area partly responsible for evolution of advanced Machining techniques? (07)
- Q.2 (a)** Explain Abrasive Jet Machining process with its parameters, features, merits, demerits and applications along with neat sketch. (07)
- (b)** Explain the working principle of EDM; also explain how it is differ from wire cut EDM? (07)
- OR**
- (b)** Compare EDM and ECM Process with respect to its tools, process, merits, demerits and applications. (07)
- Q.3 (a)** Explain ECG process with its parameters, features, merits, demerits and applications along with neat sketch. (07)
- (b)** Explain the classification of deburring processes. (07)
- OR**
- Q.3 (a)** With the help of a neat diagram explain the working principle of WJM and its applications. (07)
- (b)** What is the basic function of catcher? What problem do you expect in the absence of during WJM? Draw the neat figure of different type catchers. (07)
- Q.4 (a)** Write and explain five important process parameters of USM, with neat sketch show the effects of two of these two variables on MRR. (07)
- (b)** Derive the equation for volumetric material removal rate due to throwing mechanism for USM. (07)
- OR**
- Q.4 (a)** Explain LBM process with its parameters, features, merits-demerits and applications along with neat sketch. (07)
- (b)** Explain PAM process with its parameters, features, merits-demerits and applications along with neat sketch. (07)
- Q.5 (a)** Explain the programming of CNC Machining centre with suitable example. (07)
- (b)** What are the different ways of defining circle, using geometry statements of APT language. (07)
- OR**
- Q.5 (a)** Explain the turning centre construction with neat sketch. (07)
- (b)** What are the auxiliary statements in APT language? Explain with suitable Examples any four auxiliary commands. (07)
