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B.Tech. Degree VI Semester Examination April 2019

ME 606 CAD/CAM (2006 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A (Answer *ALL* questions)

(8 × 5 = 40)

- I. (a) Discuss about Detroit type automation.
- (b) Differentiate between solid and surface modelling.
- (c) Compare absolute and incremental systems used in CNC programming.
- (d) Write short notes on linear encoders.
- (e) Discuss the requirement of testing and calibration of NC machines.
- (f) Discuss the static and dynamic errors in NC machines.
- (g) Discuss about PTP and CP systems in robots.
- (h) With neat sketches discuss the elements of FMS system.



PART B

(4 × 15 = 60)

- II. (a) Discuss the various steps involved in FEM. (8)
- (b) Discuss about the data exchange between CAD and CAM. (7)
- OR**
- III. (a) Discuss the merits and demerits of wireframe modelling. (5)
- (b) Explain the algorithm of line balancing using Largest Candidate Rule. (10)
- IV. (a) Write a short note on cutter compensation used in NC programming. (7)
- (b) With an example illustrate the use of preparatory codes G70, G71, G03 and G04. (8)
- OR**
- V. Discuss any five geometry statements and any five motion statements used in APT programming. (15)
- VI. (a) Discuss the special design features of a machining centre. (8)
- (b) With neat sketches explain ATC and APC used in CNC machines (7)
- OR**
- VII. Discuss the unique constructional features of NC machines. (15)
- VIII. (a) Write short notes on AI and expert systems. (7)
- (b) Write short notes on force and torque sensors used in robots. (8)
- OR**
- IX. (a) With neat sketches explain the configuration of articulated robots. (8)
- (b) Discuss about servo controls used in robots. (7)
