KADI SARVA VISHWAVIDYALAYA

B.E SEMESTER 7th EXAMINATION (NOVEMBER / 2016)

SUBJECT CODE: ME-703 **SUBJECT NAME: Computer Integrated Manufacturing**
DATE: 12/11/2016 **TIME: 10:30 am to 1:30 pm** **TOTAL MARKS: 70**

Instruction:

1. Answer each section in separate Answer Sheet.
2. Use of scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate **clearly**, the options you attempted along with its respective question number.
5. Use the last page of main supplementary for rough work.

SECTION-I

Que:1 (A) Designate axes for CNC Turn Center with neat sketch. State the rules followed by you in sequence. **[5]**

(B) Explain briefly Product Design & Development. **[5]**

(C) Discuss role of AGV's in FMS. **[5]**

OR

(C) Draw a neat sketch of re-circulating ball screws. What are the various methods of Preloading? State the advantages of ball screws over conventional lead screws. **[5]**

Que:2 (A) How the CAD/CAM integration useful to industries. **[5]**

(B) Explain with neat sketch AS/RS system used in FMS. **[5]**

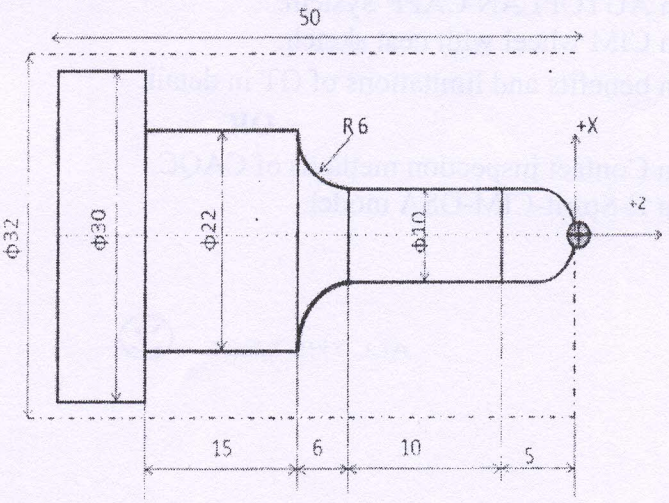
OR

(A) Discuss various applications of robots. **[5]**

(B) Explain Coding structures with reference to Group Technology. **[5]**

Que:3 (A) What do you mean by canned cycle? Write general syntax of G81 canned cycle used in CNC milling. **[5]**

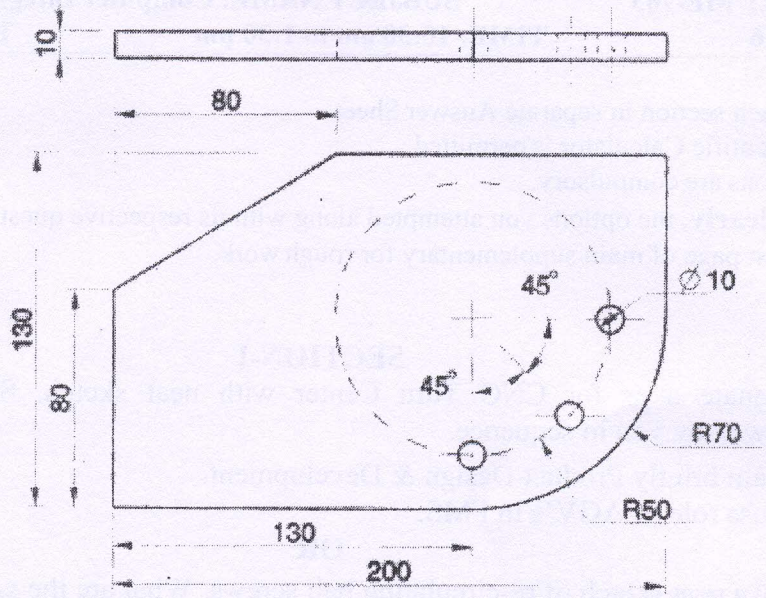
(B) Write a CNC program using appropriate G and M code to turn component as shown in figure (1). Raw material: MS Φ32 X 50 mm, cutting speed V= 40 m/min and feed=0.1, Assume suitable data for depth of cut. **[5]**



OR

(A) Explain factors influencing selection of NC/CNC machine tools [5]

(B) Write a manual part program for profile milling and hole drilling using a machining center. Show the part zero. Assume suitable DATA if necessary. [5]



SECTION-II

Que:4 (A) Explain OPTIZ classification and coding system in brief [5]

(B) Brief description of commonly used software packages and their use in area of CAD/CAM/CAE. [5]

(C) List methods of programming the robot and explain any one. [5]

OR

(C) Explain MRP-I &MRP-II [5]

Que:5 (A) Explain generative type CAPP system. [5]

(B) Explain various types of physical configurations of Robot. [5]

OR

(A) Explain IBM concepts of CIM. [5]

(B) Explain AUTOPLAN CAPP System. [5]

Que:6 (A) Explain CIM wheel with neat sketch. [5]

(B) Explain benefits and limitations of GT in detail. [5]

OR

(A) Explain Contact inspection methods of CAQC. [5]

(B) Explain E-Spirit-CIM-OSA model. [5]

ALL THE BEST...

KADI SARVAVISHWAVIDYALAYA

B.E. SEMESTER VII EXAMINATION (NOVEMBER-2015)

SUBJECT CODE: ME703 SUBJECT: Computer Integrated Manufacturing

DATE: 27/11/2015 TIME: 10:30a.m. TO 1:30 p.m. TOTALMARKS: 70

Instructions:

1. Answer each section in separate Answer Sheet.
2. Use of scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate **clearly**, the options you attempted along with its respective question number.
5. Use the last page of main supplementary for rough work.

Section -I

Q.1 (a)	Differentiate between NC & CNC. List their advantages and limitations.	05
(b)	What are the basic components of numerical control system Draw and discuss function of each component	05
(c)	Explain various types of Tape Readers used in NC machine.	05
	OR	
(c)	Explain in brief canned cycle.	05
Q.2 (a)	Explain the programming of CNC Machining center with suitable example.	05
(b)	How the axes are designated in CNC m/c tools? Sketch and designate the axes of CNC vertical milling machine	05
	OR	
Q.2 (a)	Explain the linear and circular interpolations used in turning stating illustrations.	05
(b)	Write short note on Automated guided Vehicle associated with FMS.	05
Q.3 (a)	Explain MRP-I and MRP-II in detail	05
(b)	Distinguish between variant and generative type CAPP stating their advantages	05
	OR	
Q.3 (a)	What is tool compensation? Explain tool length and cutter radius compensation	05
(b)	What are the auxiliary statements in APT language? Explain with suitable examples any four auxiliary commands	05

Section -II

Q.4 (a)	What are the different types of gripper used in robot? Explain any two in detail.	05
(b)	Discuss the concept of CIM wheel and state potential benefits of CIM.	05
(c)	Explain AS/RS system used in FMS.	05

OR

(c)	Which parameters are to be considered for robot specification and selection of robot? Explain in details	05
Q.5 (a)	Why is part classification and coding required in GT. Explain OPTIZ system of coding.	05
(b)	Discuss various applications of robots	05

OR

Q.5 (a)	State various models of CIM. Explain any one in detail	05
(b)	What is GT? Explain methods of grouping parts into part families in brief.	05
Q.6 (a)	Explain in brief Programmable Logic controllers(PLCS)	05
(b)	Explain in detail composite part.	05

OR

Q.6 (a)	What is computer integrated production management system? Explain with neat flow chart.	05
(b)	Explain various sensors and actuators used in robots.	05