

SANT GADGE BABA AMRAVATI UNIVERSITY
BACHELOR OF ENGINEERING SEMESTER VII (CGS) EXAMINATION OF S-2020

H.V.P.Mandal's College of Engineering & Technology, Amravati
Department of Mechanical Engineering

Academic Session : 2019-20

Semester: VII

Unit- I II ,III, IV ,V,VI

Date: 27/10/2020

Subject Name: Automation Engg.

Subject Code:

Max Marks :

Note: Solve any 2 Questions out of 4 Question.

All ques Carry equal marks

- Ques1)**
- a) Explain types of automation in detail. **3 Marks**
 - b) What is DNC? What are the types of DNC **3 Marks**
 - c) State Various types of joints in Robotics **1 Mark**
 - d) Define Group Technology **1 Mark**
 - e) State FMS benefits. **1 Mark**
 - f) What are the phases of shop floor control **1 Mark**
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Ques2) a) Following data apply to a 8 station transfer machine. Probability of failure for all stations=0.01, Ideal or theoretical cycle time=0.4 min. Average down time =4.0 min Using upper bound approach, compute the following for the transfer machine

- i) F, Frequency of line stops
 - ii) R_p , the average production rate **3 Marks**
 - b) State Classification of NC machine **3 Marks**
 - c) State only Name (Types) of Robot according to physical configuration **1 Mark**
 - d) What is Part Family **1 Mark**
 - e) Tell the name of Various FMS Layout configuration **1 Mark**
 - f) What do you mean By CIM **1 Mark**
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- Ques3) a)** State different methods of workpart transport. **1 Mark**
- b) G02 Code stands for **1 Mark**
 - i) Linear Interpolation
 - ii) Circular clockwise interpolation
 - iii) Circular anticlockwise interpolation
 - iv) Cutter Compensation
 - c) Define End effector **1 Mark**
 - d) What do you mean by Generative Approach of CAPP? **1 Mark**
 - e) What are the types of AS/RS systems **3 Marks**
 - f) What is CMM. State its advantages & Disadvantages. **3 Marks**
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- Ques4) a)** State various Automation strategies **1 Mark**
- b) Define Absolute & Incremental Dimensioning **1 Mark**
 - c) What is Robot Programming **1 Mark**
 - d) Give any two difference between Retrieval CAPP & Generative CAPP **1 Mark**
 - e) What do you mean By AGV. Define. **3 Marks**
 - f) Explain Machine vision system in brief. **3 Marks**

.....**Best of Luck**.....