

TMMS 03

24/10/17

Technology Mgmt & Manufacturing Strategy.

Roll No.

Total No. of printed pages : 3

Total No. of Questions : 7

Max. Marks : 60

Duration (hrs) : 3

Notes : 1) Question 1 is compulsory and carries 20 marks

2) Balance six questions carry 10 marks each and attempt any four questions from them

3) Each of these questions has three subquestions which carry 5 marks each

4) Answer any two subquestions from each question attempted.

Q1) Explain following with reference to Process Technology (Attempt any 10)

- i) Process
- ii) Process Flow Chart
- iii) Task and storage
- iv) Single and multi stage process
- v) Blocking
- vi) Starving
- vii) Paced and non paced process
- viii) Throughput time
- ix) Run Time
- x) Cycle time
- xi) Operation time
- xii) Lead time
- xiii) One technique for reducing throughput time

Q2 (a) Dr. Goldratt advocated that for achieving global optima, the traditional production manager should shift the focus which was promoting local optima only. In the context of this statement, explain the new focus and the operational performance parameters suggested by him.

Q2 (b) Differentiate between

- I. Activation of a resource and Utilization of a resource
- II. Process Batch and Transfer Batch

Q2 (c) Explain following terms in relation to Theory of Constraints

- I. Bottleneck
- II. Non Bottleneck
- III. Constraint
- IV. Capacity
- V. Capacity constrained resource

Q3 (a) What is the type production system suitable for mass customization? Explain its characteristic features.

Q3(b) Bring out the differences between 'Push' and 'Pull' type of production system

Q3 (c) What is Kanban? Which type of production system uses this concept and for what purpose it can be used the best?

Q4 (a) How does JIT help in quality improvement?

Q4 (b) What is the approach of JIT towards product design and process design?

Q4 (c) Which type of manufacturing environment is suitable for implementation of JIT? Why? Bring out the aspects of JIT which are pertinent to this manufacturing system.

Q5 (a) What is waste and what are the different types of waste addressed in Lean Manufacturing?

Q5(b) Explain the terms value, avoidable and non avoidable waste, value stream in the context of Lean Manufacturing

Q5 (c) What is the philosophy of lean production and which are the basic enabling mechanisms of Lean production system?

Q6(a) For managing its technology effectively, every organization needs Generalist as well as Specialist. Discuss their advantages, limitations and techniques used for keeping them motivated.

Q 6(b) "Operational Control in manufacturing systems is largely a function of the relationship between input and output rates" Discuss. How does Synchronous manufacturing help in maintaining this relationship?

Q 6(c) What are the technological developments in hardware systems applied to manufacturing processes?

Q7(a) Bring out the contribution of software technological developments to manufacturing

Q7(b) What are the characteristics of Intermittant Flow systems?

Q7 (c) Volume, Variety and Flow are the three main parameters which impact the span of Technology and the manufacturing system required by a particular organization. Bring out effect of these parameters in technology management decisions.
