

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA-SEMESTER-II-EXAMINATION-WINTER-2024**

**Subject Code: 1529605**

**Date: 17/01/2025**

**Subject Name: Production & Operations Management**

**Time: 02:30 PM TO 05:30 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1** Definitions / terms / explanations / short questions based on concepts of theory/practical **14**
- (a) Line balancing
  - (b) CPM
  - (c) TQM
  - (d) ISO 14000
  - (e) Cellular manufacturing
  - (f) Assembly line manufacturing
  - (g) Batch production Vs Mass Production
- Q.2** (a) Bring out the difference between intermittent and continuous manufacturing **07**
- (b) Operations Management poses various challenges in recent times. Discuss **07**
- OR**
- (b) A Pizza Delivery Service is considering to locate its business in your city. Enlist the factors which this service should take into consideration while locating in your city **07**
- Q.3** (a) Write a note on Aggregate Production Planning **07**
- (b) Differentiate product layout from process layout with examples **07**
- OR**
- Q.3** (a) What do you understand by Operations Scheduling? What are the problems faced in the absence of proper scheduling? **07**
- (b) The ABC fun novelty buys 80,000 shipping containers per year. Price of each container is Rs. 0.40. Ordering cost is Rs. 80 per order. Cost of holding one container for one year is Rs. 0.10. Bank rate of interest is 15% including charge of insurance and taxes. Find, **07**
1. EOQ and time period between two orders based on 220 working days in a year.
  2. The minimum variable cost per year
  3. If company had been following policy of quarterly ordering, what would have been the increase in the variable cost
- Q.4** (a) Depict your understanding for Just in Time manufacturing system. **07**
- (b) Project control should always focus on the critical path. Critically examine the statement **07**
- OR**
- Q.4** (a) Explain Six Sigma process of Japanese manufacturing **07**
- (b) Write a note on Program evaluation and Review technique and role of Beta curve in the same **07**

**Q.5**

Indian institute of material management (IIMM) is a forum for purchase and materials related employees and they have frequent meetings, seminars and annual conventions to share knowledge. In one of their annual conventions the topic was implementation of JIT for competitive advantage. Leading personalities of the IIMM talked lots of positive and benefits due to the JIT manufacturing systems. However few of the executive participants were more worried about practice and less interested in idealistic theories.

One Mr. Jitendra Joshi of LML's Bangalore office was impressed. He has been arranging engine block castings, tyre tube sets, machined components, speedometers etc from southern region of LML, Kanpur unit. He has 15 years of experience in facing lots of problems in arranging the long distance supplies. He mustered courage to get and ask few questions against the JIT and summary of questions to Mr. Sudhakar (the speaker) were as follows:

Mr. Joshi said JIT cannot be fully implemented in Indian conditions due to the following genuine constraints: The inter-state disputes like 'Kaveri Dispute', 'Border Disputes' at times disturb the arrangements. On and off terrorism, political agitations, holidays due to local, regional and national leaders' deaths also disturb work environment. Spread of vendors all over India and vastness of coverage do not enable to know correct position of WIP of vendors. Transport bottlenecks, heavy rain, floods (coastal areas), workers' strikes cause anxiety and worry.

Partnership problems, financial and quality constraints are not easily attended or solved. These questions were like a mini speech on anti JIT and the atmosphere in the auditorium got changed up. Mr. Sudhakar, the speaker, gave half hearted replies to questions for which Mr. Joshi and his friends were not satisfied. Finally Mr. Sudhakar said: "The system which operate successfully in Japan may not work equally well in other countries".

- (a) As a manager, do you agree that JIT purchase works well in the developing countries? **07**  
Why
- (b) Do you agree with Mr. Joshi's views on constraints to JIT? Why? **07**

**OR**

- Q.5** (a) As a manager, explain the correct problems in India for implementing JIT system. **07**
- (b) Write how you feel the JIT systems can be adopted in India with an example. **07**

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