BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BE **SEMESTER: VII**
BRANCH: EEE/BT/MECH/PROD/CIVIL **SESSION : MO/2019**

SUBJECT : PE7005 COMPETITIVE MANUFACTURING STRATEGIES

TIME: 1.5 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

Q1 (a) What is liberalization of market? [2]
(b) What are the major steps taken by the Indian government as a part of the liberalization and globalization strategy in the early nineties? [3]

Q2 (a) What are the major functions of WTO? [2]
(b) What are the competitive advantages of domestic companies over the multinational companies? Explain with suitable examples. [3]

Q3 (a) How modularity in product design improves the competitiveness of a manufacturing firm? [2]
(b) What are the different phases of modular design? Explain in brief with design structure matrix. [3]

Q4 (a) How do variety creation and variety implementation decisions determine a firm's responsiveness to demand uncertainty? [2]
(b) How awards and certification schemes are utilized by leading firms to enhance the competitiveness among their vendors? [3]

Q5 (a) What is the use of triangular kanban? [2]
(b) A Bracket Manufacturing Company uses a kanban system. Its requirements are 20,000 brakets per month. The policy variable is set at safety factor (α) = 25 %. The container capacity is fixed at 50 items and the production lead time is 0.5 days with 26 working days a month. [3]
i) Determine the number of production kanbans required.
ii) What happens if the lead time is increased to 0.75 day because of labor shortages and failure of machine?

Q6 (a) How do materials and information flow during just in time manufacturing? [2]
(b) What are the similarities and dissimilarities between the agile manufacturing and just in time manufacturing? [3]

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