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

CLASS: BE **SEMESTER : VII**
BRANCH: PROD **SESSION : MO/17**

SUBJECT: PE7023 ECO-FRIENDLY MANUFACTURING

TIME: 3. Hours **FULL MARKS: 60**

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)	Why we put emphasis on Sustainable manufacturing.	[2]
Q.1(b)	Briefly discuss Monozukuri principles.	[4]
Q.1(c)	Write basic concept of Eco friendly manufacturing.	[6]
Q.2(a)	Give examples of green manufacturing.	[2]
Q.2(b)	How Carbon credit is implemented. What benefit can be derived from this.	[4]
Q.2(c)	What is the role of manufacturing in Global warming?	[6]
Q.3(a)	Discuss Lean principle.	[2]
Q.3(b)	What are the effects of industrial activity on environment? Explain with a suitable diagram.	[4]
Q.3(c)	Why a standard ISO 14000 was required for green manufacturing?	[6]
Q.4(a)	Name major pollution generation Industries.	[2]
Q.4(b)	How metal recycling helps in sustainable manufacturing.	[4]
Q.4(c)	Elaborate Energy efficiency Management.	[6]
Q.5(a)	What is the role of Central Pollution Control Board.	[2]
Q.5(b)	What are the causes of waste generation.	[4]
Q.5(c)	Discuss systematic approach for prevention of wastes.	[6]
Q.6(a)	Write reasons for Smog.	[2]
Q.6(b)	Differentiate between renewable and finite resources.	[4]
Q.6(c)	How does Life cycle assessment (LCA) determines environmental impact?	[6]
Q.7(a)	Define green design.	[2]
Q.7(b)	What do you mean by reverse supply chain.	[4]
Q.7(c)	Explain green rapid prototyping manufacturing.	[6]

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