

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER- VI EXAMINATION – SUMMER 2026****Subject Code:3161916****Date:29-05-2026****Subject Name:Product Development and Entrepreneurship****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.
- 5.

		MARKS
Q.1	(a) Which are the characteristics of successful product development?	03
	(b) Explain the importance of product development to become a successful entrepreneur.	04
	(c) Elaborate the challenges in Product development.	07
Q.2	(a) Enlist the steps involved in concept selection process.	03
	(b) Explain the flow process of generic development.	04
	(c) Describe the concept generation process with suitable example.	07
	OR	
	(c) Discuss the product life cycle in detail and its significance in entrepreneurship.	07
Q.3	(a) Prepare the list of steps involved in design for product maintenance.	03
	(b) Describe the evaluation techniques of design for manufacturing methodology.	04
	(c) Explain the importance of functional analysis using suitable example.	07
	OR	
Q.3	(a) Define the product architecture and its types.	03
	(b) Explain the importance of virtual prototyping in engineering field.	04
	(c) Describe the additive manufacturing using suitable example.	07
Q.4	(a) Which are the characteristics of successful entrepreneur?	03
	(b) Define the entrepreneurship and classify types.	04
	(c) Discuss the factors propelling innovation and entrepreneurship in relation to new products.	07
	OR	
Q.4	(a) Define the terms: 1) market feasibility, 2) technical feasibility and 3) financial feasibility.	03
	(b) Prepare a drawing of a business plan.	04
	(c) Write short note on preparing project report and presenting business plan to investors.	07
Q.5	(a) Enlist the steps involved in preparing marketing plan.	03
	(b) Describe the short note on organizational plan.	04
	(c) Discuss the financial plan and explain the break-even analysis.	07

OR

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|------------|------------|---|-----------|
| Q.5 | (a) | Enlist the legal issues in patents due to IPR. | 03 |
| | (b) | Explain in short: 1) trademarks, 2) copy rights, 3) trade secrets and 4) franchising. | 04 |
| | (c) | Elaborate the importance of IPR in overall growth of country using suitable example. | 07 |

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3161916

Date: 28-05-2025

Subject Name: Product Development and Entrepreneurship

Time: 10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

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

		Marks
Q.1	(a) What are the objectives of Intellectual property rights?	03
	(b) Differentiate the managerial and entrepreneurial approaches.	04
	(c) Explain the different phases of the generic product development process.	07
Q.2	(a) What is a Function Family Tree (FFT)? Explain it.	03
	(b) Enlist the advantages of 3D printing .	04
	(c) Explain the articulated use methods for interviewing the customers, by taking suitable examples.	07
	OR	
	(c) Explain the stepwise procedure of the product planning process.	07
Q.3	(a) Explain the types of functions of any product.	03
	(b) Explain different types of customer needs.	04
	(c) Explain the different phases of the product life cycle with appropriate examples.	07
	OR	
Q.3	(a) Enlist the different types of maintenance operations in the industry.	03
	(b) Explain the challenges of product development.	04
	(c) Explain the General Guideline for optimizing the number of parts in the design.	07
Q.4	(a) Enlist the various characteristics of the successful entrepreneur.	03
	(b) Explain the Entrepreneurship Process.	04
	(c) Why feasibility study is required? Explain different types of feasibility studies in brief.	07
	OR	
Q.4	(a) What are the contents of the business plan?	03
	(b) Explain the Five competitive force models for industry analysis.	04
	(C) Explain the role of entrepreneurship in economic development.	07
Q.5	(a) Why marketing research is required for the new venture?	03
	(b) What is additive manufacturing? Explain it briefly	04
	(c) Explain briefly 1) Trademark 2) Copyright and 3) Patent	07

Q.5	(a)	Explain Break Even Analysis.	03
	(b)	Differentiate between licensing and franchising	04
	(c)	What is product modularity? Explain various types of product modularity.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024****Subject Code:3161916****Date:22-05-2024****Subject Name:Product Development and Entrepreneurship****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

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

		MARKS
Q.1	(a) Write any three characteristics of successful product development.	03
	(b) Discuss Product life cycles.	04
	(c) Discuss the challenges in Product development.	07
Q.2	(a) How to priorities the opportunities?	03
	(b) Which are different type of costumer need?	04
	(c) Explain methods used to determine customer need importance.	07
	OR	
	(c) Explain like-dislike method to conduct interview.	07
Q.3	(a) List the steps to establish the product architecture.	03
	(b) Write any four advantages of 3D printing.	04
	(c) Define product modularity. Explain various types of product modularity.	07
	OR	
Q.3	(a) Why affinity diagrams are used for product planning?	03
	(b) Discuss importance of designing for maintenance.	04
	(c) Explain free-form fabrication method (additive manufacturing) as a prototyping technique.	07
Q.4	(a) List characteristic of successful entrepreneurs.	03
	(b) Differentiate between managerial vs. entrepreneurial approach.	04
	(c) Discuss role of entrepreneurship in economic development.	07
	OR	
Q.4	(a) Discuss creative problem solving.	03
	(b) Which are knowledge and skills required by entrepreneur? Write any four.	04
	(c) Explain technical and financial feasibility.	07
Q.5	(a) Write the steps for marketing research for the new venture.	03
	(b) How to present business plan to investors?	04
	(c) Discuss for Financial plan: cash budget, working capital and break even analysis.	07
	OR	
Q.5	(a) What do you mean by intellectual property rights?	03
	(b) What is patent? Explain in detail about utility patents	04
	(c) Give a case study or example with reference to trade secrets.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3161916****Date:12-07-2023****Subject Name:Product Development and Entrepreneurship****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

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

MARKS

Q.1	(a)	What is product development? Give two examples.	03
	(b)	List the characteristics of successful product development (any four)	04
	(c)	Explain Reverse Engineering and Redesign Product development Processes	07
Q.2	(a)	Discuss like-dislike method for conducting interview.	03
	(b)	Which are different types of customer needs?	04
	(c)	Describe briefly the phases of product life cycles.	07
OR			
	(c)	Describe guidelines for evaluation of the Overall Assembly.	07
Q.3	(a)	How opportunities can be identified?	03
	(b)	Enlist the steps to established the product architecture	04
	(c)	Explain free-form fabrication method (additive manufacturing) as a prototyping technique.	07
OR			
Q.3	(a)	Which are the steps to establish the product architecture?	03
	(b)	Write importance of designing for maintenance	04
	(c)	Briefly describe 3-d printing technology. Write its advantages.	07
Q.4	(a)	Which knowledge and skills are required by a Successful entrepreneurs?	03
	(b)	Compare managerial vs. entrepreneurial approach.	04
	(c)	Discuss role of entrepreneurship in economic development	07
OR			
Q.4	(a)	Define : Market feasibility, Technical/operational feasibility, Financial feasibility	03
	(b)	Explain presentation of business plan to investors.	04
	(c)	Write a short note on franchising.	07
Q.5	(a)	Define break even analysis. Explain it with sketch.	03
	(b)	Explain manpower planning and Financial plan for business.	04
	(c)	How to carry marketing research for the new venture? Discuss the steps in preparing marketing plan.	07
OR			
Q.5	(a)	Define: Patents, Trademarks, and Copy rights	03
	(b)	Explain the design for assembly (DFA) methodology with reference to minimize the cost assembly.	04
	(c)	Write a short note on intellectual property rights.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2022****Subject Code:3161916****Date:08/06/2022****Subject Name:Product Development and Entrepreneurship****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

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

		MARKS
Q.1	(a) Discuss concept generation process.	03
	(b) Write advantages of Reverse Engineering.	04
	(c) Explain characteristics of successful product development.	07
Q.2	(a) Why customer need is very important for product development process?	03
	(b) Discuss Articulated-Use Method for conducting interviews.	04
	(c) What is affinity diagram? Draw an affinity diagram with a suitable example.	07
OR		
	(c) Explain opportunity identification process.	07
Q.3	(a) What is functional analysis in engineering?	03
	(b) Write importance of designing for maintenance.	04
	(c) Explain guidelines for evaluation of the Overall Assembly.	07
OR		
Q.3	(a) Write advantages of 3D Printing.	03
	(b) Name type of Product Modularity.	04
	(c) Explain virtual prototyping with an example of CAD.	07
Q.4	(a) Define Entrepreneur and Entrepreneurship.	03
	(b) Briefly discuss the role of entrepreneurship in economic development.	04
	(c) Discuss knowledge and skills required for successful entrepreneur.	07
OR		
Q.4	(a) What do you mean by creative problem solving?	03
	(b) What is the importance of e-commerce technology for entrepreneurs?	04
	(c) Enlist important parameters of feasibility study for a business.	07
Q.5	(a) Discuss working capital.	03
	(b) Why man power planning is important in entrepreneurial business.	04
	(c) Write steps in preparing a marketing plan with appropriate flow chart.	07
OR		
Q.5	(a) Write a short note on franchising.	03
	(b) Write a short note on break even analysis.	04
	(c) Define and explain trademark and copyright.	07
