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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY  
B.Tech Degree S2 (R,S) Examinations April 2026 (2024 Scheme)

**Course Code: UCEST206**  
**Course Name - ENGINEERING ENTREPRENEURSHIP & IPR**

Max. Marks: 40

Duration: 2 hours 30 minutes

**PART A**

*(Answer all questions. Each question carries 2 marks)*

		CO	Marks
1	Why innovation is important in entrepreneurship?	CO1	(2)
2	Distinguish between customer segmentation and customer profiling?	CO2	(2)
3	How do you differentiate your product or service from competitors?	CO2	(2)
4	What is the purpose of a business plan for a startup?	CO3	(2)
5	How will the prototype development process be documented and tracked?	CO4	(2)
6	Why stakeholder engagement in prototype development is important?	CO5	(2)

**PART B**

*(Answer any one full question from each module, each question carries 7 marks)*

**Module -1**

- |   |   |     |     |
|---|---|-----|-----|
| 7 | a) What are the strategies for protecting intellectual property based on the type of innovation?  | CO1 | (4) |
|   | b) Explain the role of IPR in securing funding and competitive advantage.   | CO1 | (3) |
| 8 | A group of engineers is tasked with designing a portable, affordable, and effective water filtration system for communities with limited access to clean water. |     |     |
|   | a) What are the key steps in the ideation process for designing a new water filtration system?  | CO1 | (2) |
|   | b) How can the team embrace a growth mindset, a problem-solving mindset, and an adaptability mindset while developing the filtration system?                    | CO1 | (3) |
|   | c) What are some potential sources of funding and support for aspiring entrepreneurs?   | CO1 | (2) |

**Module - 2**

- 9 a) How do you create a realistic and detailed customer persona and why it is important for marketing? CO3 (4)
- b) How can an entrepreneur use competitor profiling to develop a unique value proposition and differentiation strategy? CO3 (3)
- 10 GreenTech Solutions is a Kerala-based engineering startup specializing in developing innovative water filtration systems for rural communities. They aim to provide affordable, sustainable solutions to address water scarcity and improve public health CO3 (4)
- a) Conduct a SWOT analysis for GreenTech Solutions.
- b) How can GreenTech Solutions benchmark itself against industry leaders and implement improvements? CO3 (3)

#### Module -3

- 11 a) What are the potential risks associated with starting an engineering-based business? How can you identify, assess and mitigate these risks? CO2 (7)  
CO4
- 12 Consider a case study of a Solar Panel Manufacturing Startup in Kerala. CO2
- a) What key elements of the business plan are specific to the engineering and manufacturing aspects of the business? CO4 (3)
- b) How will the startup reach potential customers in Kerala? What marketing strategies will be used to build brand awareness and drive sales? CO2 (4)  
CO4

#### Module -4

- 13 a) How can you best engage stakeholders early in the prototyping process? CO5 (4)
- b) How will you measure the success of engaging stakeholders in the prototyping process? CO5 (3)
- 14 A team develops a prototype for a new robotic solution for logistics. The project requires collaboration with established robotics companies and direct customer input. CO5 (3)
- a) How did the team collaborate with customers to understand their specific needs and tailor the robot to their requirements?
- b) How did the team effectively engage with partner companies (e.g., software vendors, hardware suppliers) to integrate their components into the robot? CO5 (4)