



Paper ID : 260677

Printed Page: 1

Subject Code:BOE081

Roll No:

BTECH

(SEM. VIII) THEORY EXAMINATION 2025-26

FUNDAMENTALS OF DRONE TECHNOLOGY

TIME: 3 HRS

M.MARKS: 70

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt *all* questions in brief.

02 x 7 = 14

Q no.	Question	CO	Level
a.	What is UAV? Give two applications of UAV.	1	K1
b.	What factors influence drone design?	1	K2
c.	What is the function of the autopilot in a drone?	2	K1
d.	What is the function of GPS in drones?	3	K2
e.	What is the role of Telemetry and Tracking in UAV?	4	K1
f.	What is PID control?	4	K2
g.	Mention two challenges in drone technology.	5	K3

SECTION B

2. Attempt any *three* of the following:

07 x 3 = 21

Q no.	Question	CO	Level
a.	Discuss the history of UAV drones, highlighting key milestones and technological advancements that have shaped the industry.	1	K1
b.	Discuss drone regulations in India, including registration and operational guidelines.	2	K2
c.	Explain the architecture of avionics systems in drones.	3	K3
d.	Describe the communication systems in drones, including frequency bands and modems	4	K2
e.	Discuss the future prospects of drone technology in various industries.	5	K3

SECTION C

3. Attempt any *one* part of the following:

07 x 1 = 07

Q no.	Question	CO	Level
a.	Write short notes on launch, recovery and retrieval equipment for UAVs as a part of UAVs system functional structure.	1	K2
b.	Classify drones based on their size, range, and capabilities. Provide examples of each classification and explain their typical applications.	1	K3

4. Attempt any *one* part of the following:

07 x 1 = 07

Q no.	Question	CO	Level
a.	Discuss the factors that influence design decisions, such as aerodynamics, weight distribution, and mission requirements.	2	K3
b.	Discuss how gyroscopes and accelerometers help maintain drone stability.	2	K3



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5. Attempt any one part of the following:**07 x 1 = 07**

Q no.	Question	CO	Level
a.	Explain the functioning of actuators and servo motors in drones.	3	K2
b.	Describe the PID controller feedback and radio control frequency range for UAV system.	3	K3

6. Attempt any one part of the following:**07 x 1 = 07**

Q no.	Question	CO	Level
a.	Explain how ground control software assists in drone navigation and monitoring.	4	K2
b.	Explain different types of payloads used in drones and their applications.	4	K3

7. Attempt any one part of the following:**07 x 1 = 07**

Q no.	Question	CO	Level
a.	Explain the concept of waypoint navigation and GPS-based flight control.	5	K3
b.	Discuss few reasons for the loss of communication during UAS operations. What is the path loss in radio communications?	5	K3