

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)
B.E/ B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Sixth Semester

Agricultural Engineering

AI3022- Automation in Agriculture

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	List the passive semiconductor devices.	L2	1	2
2.	Define instruction set of a microprocessor.	L1	1	2
3.	Why to choose Precision Agriculture over conventional Agriculture system now days in developing countries?	L1	2	2
4.	Write the short notes on yield mapping systems in agriculture.	L2	2	2
5.	How do agricultural robots helps farming?	L1	3	2
6.	What are the challenges in implementing agricultural robots?	L1	3	2
7.	Point out the challenges faced by Internet of Things.	L2	4	2
8.	In what way Raspberry pi is better than Arduino?	L2	4	2
9.	What is a smart irrigation system?	L1	5	2
10.	Outline the benefits of automating greenhouse operations	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the block diagram of Op-Amp and its characteristics.	L2	1	8
	i Compare different types of ADCs.	L2	1	8
	i			
	Or			
	b Explain the architecture of 8085 microprocessor.	L2	1	16
12.	a i Explain the methods used in creating GIS information system for precision farming.	L2	2	8
	i Explain briefly the application of ground based sensors in precision	L2	2	8
	i agriculture.			
	Or	L2		
	b Describe in detail about the crop yield mapping with respect to	L2	2	16

space and time variation.

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|-----|---|--|--|----|----|---|
| 13. | a | How do you collaborate with agronomists, farmers, and other stakeholders when developing robotic solutions? Explain. | L2 | 3 | 16 | |
| | | Or | | | | |
| | b | Discuss the various types of agricultural robots and their functions. | L2 | 3 | 16 | |
| 14. | a | Interpret the challenges and limitations of implementing IoT in agriculture. | L2 | 4 | 16 | |
| | | Or | | | | |
| | b | Discuss the pin details of Arduino and explain its applications in agricultural engineering. | L2 | 4 | 16 | |
| 15. | a | i | Discuss the various sensors and their applications in IOT based agricultural operations. | L2 | 5 | 8 |
| | | i | Outline the usages of drones in agriculture. | L2 | 5 | 8 |
| | | i | | | | |
| | | Or | | | | |
| | b | Discuss the challenges faced in implementation of greenhouse / farm operations. Also, provide the suitable methods to overcome the challenges and to improvise the yields. | L2 | 5 | 16 | |