

Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

## **NAAC DOCUMENTS**

**QUALITY INDICATOR FRAME WORK** 

**CRITERION – 1** 

## **CURRICULAR ASPECTS**

SUBMITTED BY

**IQAC** 

INTERNAL QUALITY ASSURANCE CELL INDRA GANESAN COLLEGE OF ENGINEERING





## DEPARTMENT OF AGRICULTURAL ENGINEERING

## ACADEMIC YEAR 2022-2023 / ODD SEMESTER

## 1.2 Academic Flexibility (30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

## AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	Verti	ical Fa	rming							
Resource Per	rson:	N.Ra		n, HR,		s Corporatio	n			
Date of cond	uct fro	om:	01.08.2022		To:	05.08.2022		<b>Duration:</b>	30 Hours	
Organized D	epartı	ment:	DEPARTN	MENT	OF AC	GRICULTUI	RAL I	ENGINEER	ING	
Participant Year:		CIVIL- AGRI-l		Seme	ester:	ODD	No.	of Students	Registered:	24
Venue: A	GRI S	EMINA	AR HALL							

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## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012 Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennai NAAC Accredited, 2(F) Status Institution by UGC



Ref: IGCE/AGRI/2022-23/VAC/01

DATE: 22.07.2022

## Department of Agricultural Engineering

## Academic year 2022-2023 odd semesters

## **DEPARTMENT CIRCULAR**

Department of Agricultural Engineering and IQAC, IGCE in association with **Sri Enterprise Agro Industries Corporation** is going to organize Value Added Course for all second, third year students on "VERTICAL FARMING" from 01.08.2022 to 05.08.2022 .Certificates will be issued to the eligible participants at the end of the course. This training is to be provided in our campus.

Resource person Details:	Mr.R.Sankar, CEO,
	N.Ramachandran, HR,
	Sri Enterprise Agro industries corporation
	Trichy
Venue:	Civil Seminar Hall

Cc:

- Principal Office
- HOD/Agri & Faculty Members
- All II,III B.TECH AgriClasses
- IQAC Coordinator
- Notice Board
- Office File

D:

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Genesan College of Engineering

IG Valley Madura Main Read

Matikandan Trichy-620 017



COLLEGE OF ENGINEERING





## Value Added Course on "VERTICAL FARMING" **SYLLABUS**

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1.	Introduction for Agricultural Engineering, farmhouse requirements in India	3	01.08.2022
2.	Farmhouse Requirements In India	3	01.08.2022
3.	Origins of Vertical Farming, Types of Vertical Farms, Specialization of vertical farming house	3	02.08.2022
4.	Implementation vertical farming house	3	02.08.2022
5.	Advantages and Disadvantages of Vertical Farming	3	03.08.2022
6.	What are the Accessories available in market from vertical farm house? Techniques of Vertical Farming	3	03.08.2022
7.	Techniques of Vertical Farming	3	04.08.2022
8.	How to build vertical farming house,	3	04.08.2022
9.	Principles of vertical farming house	3	05.08.2022
10.	Conclusion of vertical farming house	3	05.08.2022
11.	Exam	1	05.08.2022
	Total Hours	30(Excluding test)	-

o<del>rdin</del>ator

Dr. G. Balakrishnan, M.E., Ph.D., Indra Ganesan College of Engineering IG Valley, Wiedurai Main Road Manikaridam, Trichy-620 012.



## COLLEGE OF ENGINEERING





## STUDENTS PARTICIPATION LIST

## VAC PROGRAM-"VERTICAL FARMING"

S.No.	Reg.No	Student's Name	Year/ Branch
1.	811220103011	Dharun Kumar R	III/CIVIL
2.	811220103020	Gunaseelan G	III/CIVIL
3.	811220103024	Iyyapan Mani A	III/CIVIL
4.	811220103025	KalanchiyaMuniyaraj B	III/CIVIL
5.	811220103029	ManiKandan M	III/CIVIL
6.	811220103030	Mohanapriya S	III/CIVIL
7.	811220103032	MuthuSelvam A	III/CIVIL
8.	811220103041	Sudhakar R	III/CIVIL
9.	811220103046	Vishwa S	III/CIVIL
	811221225002	Abinaya R	II/AGRI
11.	811221225007	Charulatha V	II/AGRI
	811221225011	Hariharan M	II/AGRI
	811221225013	Ilayaraja E	II/AGRI
14.	811221225014	Jayasoundarya M	II/AGRI
	811221225016	KalpanaPriya R	II/AGRI
16.	811221225019	Kaviya T	II/AGRI
17.	811221225022	Kowsalya I	II/AGRI
18. 8	811221225025	Ponniyammal B	
19. 8	311221225028	Rajabunisha M	II/AGRI
20. 8	311221225029	Rajesg K	II/AGRI
21. 8	311221225030	Rajeshwari D	II/AGRI
22. 8	311221225031	Sairam M	II/AGRI
	11221225040	Vijayakrishna G	II/AGRI
	11221225301	Rishi Krishna A	II/AGRI
		Taribility / 1	II/AGRI

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.



Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012 Approved by AICTE, NewDelhi & Affiliated to Anna University, Chemnai NAAC Accredited, 2(F) Status Institution by UGC



Name of the Student:

Year/Sem:

**AU Register Number:** 

Value Added Course on "VERTICAL FARMING""

## MCQ QUESTIONS (25X4 = 100 Marks)

- 1. What is one advantage to vertical farming?
  - a) Its fast
  - b) Year round
  - c) Increases jobs
  - d) Makes food taste like candy
- 2. What is the global population in 2050?
  - a) 10 million
  - b) 15 billion
  - c) 10 billion
  - d) 15 trillion
- 3. How much of earth's land is being used for crop production
  - a) 11%
  - b) 5%
  - c) 20%
  - d) 100%
- 4. Disadvantage of Vertical Farming
  - a) seasonal growth
  - b) Less jobs
  - c) Weather impacts plant production
  - d) creates runoff
- 5. What is needed in order to create a vertical farm
  - a) Be a pro gardener
  - b) Have to be a botanist
  - c) Have LED lights
  - d) Have Quick Maf skills

Dr. G. Balakrishnan, M.E. Ph.D.
Dr. G. Balakrishnan, M.E. Ph.D



## Indra Ga COLLEGE OF ENGINEERING





6. Why is Traditional Farming bad	
a) Creates better soil	
b) Uses pesticides	
c) Destroys local businesses	
d) Damages the atmosphere	
7. Agriculture is a	
a) Greek word	
b) Latin word	
c) German word	
d) Spanish	
8. The term agronomy is derived from	
(A) German word	
(B) Latin word	
(C) Spanish	
(D) Greek word	
9. Primary resource for agriculture	0.1
(A) Land, air and water	( > :
(B) Seed, Fertilizer and Pesticide	
(C) Seed, air and water	Dr. G. Balakrishnan, M.E., Ph.D.,
(D) Land, Fertilizer and water	Principal
10. Cultivation of rice begins in	Indra Ganesan College of Engineering IG Valley, Madurai Main Road
(A) 2200 BC	Manikandam, Trichy-620 012.
(B) 5700 BC	
(C) 7700 BC	
(D) 8700 BC	
11. The book 'Horse hoeing husbandry' was published by	
(A) Van Helmont	
(B) Gregor Johann Mendel	
C) Jethrotull	
D) None	
2. Kharif, Rabi and Zaid word belong to	
A) Urdu	
B) French	
C) Persian (D) Arabic	







13. Principles of mercury barometers was discovered by	
(A) Torricelli	
(B) Aristotle	
(C) Pliny	
(D) Galileo	
14. The term PET was coined by	
(A) Sarkar and Biswas	
(B) Haigreaves	
(C) Thornthwaite	
(D) Mendel	
15. National Research Centre for Litchi (NRCL) is located	at
(A) Pune	
(B) Muzaffarpur	
(C) Lucknow	
(D) Kolkata	
16. National Biodiversity Authority is located at	_
(A) Chennai	0
(B) New Delhi	JP .
(C) Nagpur	WE BHD
(D) Gurgaon	Dr. G. Balakrishnan, M.E., Ph.D.,
17. International Potato Research Centre at	Principal of Engineering
(A) Shimla	
(B) Peru	Manikandam, Trichy-620 012.
(C) Rome	
(D) USA	
18. Father of Horticulture	
(A) Thomas Andrew Knight	
(B) Liberty Hyde Bailey	
(C) John Lindley	
(D) All of the above	
19. Word "Horticulture" is derived from	
(A) Latin	
(B) English	







(C) Greek	
(D) Italic	
20. New seed police was launched in	
(A) 1982	
(B) 1992	
(C) 1988	
(D) 1986	
21. Pomology is derived from	
(A) Latin	
(B) French	
(C) English	
(D) Greek	
22. The germplasm theory was proposed by	
(A) Weisman	
(B) Mendel	
(C) Darwin	
(D) Hugo de vries	10 .
23. Which of the following bases is not present in DNA?	D:
(A) Adenine	Dr.C. Dalla
(B) Thymine	Dr. G. Balakrishnan, M.E., Ph.D.,
(C) Uracil	Indra Ganesan College of Engineering
(D) Cytosine	Toney, Wall Main Band
24. Balbiani rings are found in which of the following	Manikandam, Trichy-620 012.
(A) Lampbrush chromosomes	
(B) Sex chromosomes	
(C) Polytene chromosomes	
(D) B chromosomes	
25. The term 'genotype' and 'phenotype' were introduced	by
(A) W.L. Johannsen	
(B) W.Bateson	
(C) G.J. Mendel	
(D) R.C. Punnet	



## COLLEGE OF ENGINEERING





## Value Added Course on "VERTICAL FARMING"

## **ANSWER KEY**

1	b	6	b	11	c	16	a	21	d
2	С	7	b	12	d	17	b	22	a
3	a	8	d	13	a	18	d	23	С
4	c	9	a	14	С	19	a	·24	c
5	С	10	a	15	b	20	c	25	a

bordinator

Dr. G. Balakrishnan, M.E., Ph.D., Indra Ganesen College of Engineering principal IG Valley, Wadurai Main Road Manikandam, Tricny-629 012.



			REPO	RT ON V	ALUE AD	DED CO	OURSE		
Title:				VERTI	CAL FAR	MING			
Resource l	Person:		R.Sankar,N.Ran Enterprise Ag			oration	,Trichy		
Date of co	nduct fro	m:	01.08.2022	To:	05.08.202	22	Duration:	30 H	lours
Organized	Departn	nent:	Agricultural En	gineering					
Participant	Year:	2, 3	1		No	o. of Stud	lents Registe	ered:	1124
Venue:	Agri Sen	ninar l	Hall						

## Outcome of Value Added Course (VAC): At the end of the Course, Students can able to

- Know real-world importance of software in Agricultural engineering students
- Know how to perform in Agriin industries.
- Study about vertical farming of Agricultural.
- Students are expected to learn and practice the skills they will need in the workplace.
- Develop a foundational understanding Agricultural engineering.

## **Assessment Process**

- Students, who are securing more than 70% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score = (0.5 \*Attendance in VAC out of 100 percentage + 0.5 \*Test mark in VAC out of 100 marks)

VAC Coordinator

Hod/Agri

PRINCIPAL

D:

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-\$20 012.



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## REPORT ON VALUE ADDED COURSE

## **SAMPLE PHOTO:**



AC Coordinator

HoD/AGRI

PRINCIPAL

Dr. G. Balakrishnan, M.E., Ph.D.,

principal
Indre Ganesan College of Engineering
IG Valley, Madurai Main Road
IG Valley, Madurai Trichy-620 012.

Manikandam, Trichy-620 012.



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# Department of AGRICULTURAL ENGINEERING

Academic Year 2022-2023 -- Odd Semester

STUDENTS PARTICIPATION LIST

Dr. G. Balakrishnan, M.E., Ph.D.,

Indra Ganesan College of Engineering

MARK SHEET FOR VALUE ADDED COURSE PROGRAM - VERTICAL FARMING Manikandam, Trichy-620 012.

 VAC-MCQ TEST OVERALL	MCQ (50% of A +	(B)		88 94	80		84 92	80	85		94		88 94	OX OX	74	80	
VAC	No of Correct	Answers	22	777	20	10	77	20		22	7.7	77	777	22		70	
Attendance Details	Attendance Mark(100)	(A)	100		100	100	200	06		100		100		100	00	0	
Attendar	No. of Session	Attended	30	30		30		17	30	20		30	30	2	27	1	30
Year/	Branch	TIT/CHATTI	III/CI VII.	III/CIVIL	The state of the s	III/CIVIL	III/CIVII	TI A TO TIE	TII/CIVII	TIT OF A TIT	TIT/CITYTE	IIIVCIVIL	III/CIVII.		III/CIVIL		III/CIVIL
Student's Name		Dharun Kumar R	The second secon	Gunaseelan G	Ivvanan Man; A	1) Japan Maill A	KalanchiyaMuniyarai B	The state of the s	ManiKandan M		Mohanapriva S		MuthuSelvam A		Sudhakar R	,	Vishwa S
Reg.No		811220103011		811220103020	811220103024		811220103025		811220103029		811220103030		811220103032		811220103041	811220102016	011220103040
S.No.		1.		.2	3.		4		ν,		9.		7.	c	xó	0	,





## COLLEGE OF ENGINEERING Indra Ganesan

Medurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012 Approved by AICTE, NewDelbi & Affiliated to Anna University; Chemnal



HARIHARAN M	10. 811221225002	ABINAVAR	TILA CONT.	) Status Institution	by UGC	25		
CHARLIATHA V         II/AGRI         30         100         20         88           HARIHARAN M         II/AGRI         30         100         21         84           ILAYARAJA E         III/AGRI         27         90         20         80           JAYASOUNDARYA M         II/AGRI         30         100         22         88         5           KALPANA PRIYA R         II/AGRI         30         100         22         88         5           KAVIYA T         II/AGRI         30         100         22         88         9           RAJBUNISHA M         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9		NI VIII	II/AGKI	30	100	٠,٢	6	
HARIHARAN M         IIAGRI         30         100         20         80           ILAYARAJA E         IIAGRI         27         90         20         84           JAYASOUNDARYA M         II/AGRI         30         100         22         88         9           KALPANA PRIYA R         II/AGRI         30         100         22         88         9           KAVIYA T         II/AGRI         27         90         20         80         8           PONNIYAMMAL B         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9 <td></td> <td>CHARULATHA V</td> <td>II/AGRI</td> <td>30</td> <td></td> <td>77</td> <td>œ</td> <td>94</td>		CHARULATHA V	II/AGRI	30		77	œ	94
ILAYARAJA E		HARIHARAN M	II/AGRI	30	001	20	80	06
JAYASOUNDARYA M   II/AGRI   30   100   22   88   88   88   88   88   88	1	ILAYARAJA E	II/AGRI	7.7	100	21	84	92
KALPANA PRIYA R         II/AGRI         30         100         22         88           KAVIYA T         II/AGRI         30         100         22         88           KOWSALYA I         II/AGRI         27         90         20         80           PONNIYAMMAL B         II/AGRI         30         100         22         88         9           RAJESH K         II/AGRI         30         100         22         88         9           RAJESH WARI D         II/AGRI         30         100         22         88         9           SAIRAM M         II/AGRI         30         100         20         80         8           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9		JAYASOUNDARYA M	II/AGB!	3	PK	20	80	85
KAVIYA T         II/AGRI         30         100         22         88           KOWSALYA I         II/AGRI         27         90         20         88           PONNIYAMMAL B         II/AGRI         30         100         22         88         9           RAJABUNISHA M         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         30         100         22         88         9           SAIRAM M         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9		KAI PANA PPIWA P	NOV.	000	100	22	∞ ∞	94
KOWSALYA I         II/AGRI         30         100         22         88           FONNIYAMMAL B         II/AGRI         27         90         20         80           PONNIYAMMAL B         II/AGRI         30         100         22         88         9           RAJESH K         II/AGRI         30         100         22         88         9           RAJESHWARI D         II/AGRI         27         90         20         80         8           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9		VALIMA TO	II/AGRI	30	100	22	000	9
RAJABUNISHA M         II/AGRI         27         90         20         80           RAJABUNISHA M         II/AGRI         30         100         22         88           RAJESH K         II/AGRI         30         100         22         88           RAJESHWARI D         II/AGRI         27         90         20         88           SAIRAM M         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9		ZOWSATES.	II/AGRI	30	100	22	00	7 8
FONNIYAMMAL B         II/AGRI         30         100         22         88           RAJABUNISHA M         II/AGRI         30         100         22         88           RAJESHWARI D         II/AGRI         27         90         20         80           SAIRAM M         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         60         16         64         7		NOWSALYA!	II/AGRI	27	06	20	80	85
RAJABUNISHA M         II/AGRI         30         100         22         88           RAJESH K         II/AGRI         30         100         22         88           RAJESHWARI D         II/AGRI         27         90         20         80           SAIRAM M         II/AGRI         30         100         22         88         9           VIJAYAKRISHNA G         II/AGRI         30         100         22         88         9           RISHI KRISHNA A         II/AGRI         18         60         16         64         7	01122122023	FONNIYAMMAL B	II/AGRI	30	100			
RAJESH K         II/AGRI         30         100         22         88           RAJESHWARI D         II/AGRI         27         90         20         88           SAIRAM M         II/AGRI         30         100         22         88           VIJAYAKRISHNA G         II/AGRI         30         100         22         88           RISHI KRISHNA A         II/AGRI         11/AGRI         60         16         64		RAJABUNISHA M	II/AGRI	30	001	77	∞ ∞	94
RAJESHWARI D         II/AGRI         27         90         22         88           SAIRAM M         II/AGRI         30         100         22         88           VIJAYAKRISHNA G         II/AGRI         30         100         22         88           RISHI KRISHNA A         II/AGRI         18         60         16         64		RAJESH K	II/AGRI	30	100	22	88	94
SAIRAM M         II/AGRI         30         20         80           VIJAYAKRISHNA G         II/AGRI         30         100         22         88           RISHI KRISHNA A         II/AGRI         18         60         16         64		RAJESHWARI D	II/AGDT		100	22	88	94
VIJAYAKRISHNA G         II/AGRI         30         100         22         88           RISHI KRISHNA A         II/AGRI         18         60         16         64		SAIRAM M	II/ACBT	17	06	20	08	85
RISHI KRISHNA A II/AGRI 18 60 16 64		VIJAYAKRISHNA G	II/AGRI	30	100	22	80	94
60 16 64		RISHI KRISHNA A	II/AGRI	00	100	22	80	94
	16	-14	8	01	09	16	64	75

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering Manikandam, Trichy-620 012. IG Valley, Msdurai Main Road



COLLEGE OF ENGINEERING
Medural Main Road (NH-45B), Manikandam, Tiruchirappali - 620 012
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# Department of AGRICULTURAL ENGINEERING

Academic Year 2022-2023 - Odd Semester

## STUDENTS PARTICIPATION LIST

VAC PROGRAM "VERTICAL FARMING"

SNo	Reg.No	Student's Name	Yearl	01.0	DATE:	DATE: 02.08.22	TE:	DATE: 03.08.22		DATE: 04.08.22	, K	DATE: 05.08.22	-	NO OF	SIGNATURE
	·		e e e e e e e e e e e e e e e e e e e	E	ş	E	NY	E	ş	E	25	3	3	ATTENDED	STUDENT
-	1.   811220103011   Dharun Kumar R	Dharun Kumar R		>	>	>	>	>	12	5	12	15	+	0	160
~	2. : 811220103020   Gunaseelan G	Gunaseelan G	MICHAIL	>	5	2	5	12	5	12	1	15	+	0	0.02
m	3. 811220103024 lyyapan Mani A	lyyapan Mani A	IIIICIVIL	12	>	5	5	5	5	1	1	1	+	2	0.5
4	811220103025	811220103025 Kalanchiya Muniyaraj B	HINCOME	2	>	>	6	2	7	1	大	1	12	9	
vi	5. 811220103029   ManiKandan M	ManiKandon M	III/CIVIE	>	2	2	5	13	5	1	15	1	+	. 0	
vi	811220103030 Mohanapriya S	Mohanapriya S	IIIACIVIE	2	5	5	1	5	2	+	六	13	+	0	A Sair
7	7. 811220103032 MuthuSelvam A	MuthuSelvam A	III/CIVII.	3	5	5	5	T	1	1	+	1	1	0	
<b>3</b> 0	811220103041 Sudhakar R	Sudhakar R	III/CIVIL	>	6	13	15	13		1	-	12	13	Scores Age	X



Dr. G. Balakrishnan, M.E., Ph.B.,

Principal

Indra Ganesan College of Engineering IG Valley, Wisdurai Main Road Manikandam, Trichy-620 012.



## COLLEGE OF ENGINEERING Indra Ganesan

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Or. G. Balakrishnan, M.E., Ph.D., Principal

Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.



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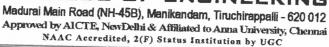




Or. G. Balakrishnan, M.E., Ph.D., Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012. Principal



## COLLEGE OF ENGINEERING





Name of the Student: Charulatha V

Year/Sem: I AGRI

AU Register Number: 811221225007

Value Added Course on "VERTICAL FARMING""

## MCQ QUESTIONS (25X4 = 100 Marks)

- 1. What is one advantage to vertical farming?
  - a) Its fast
  - (b) Year round
  - c) Increases jobs
  - d) Makes food taste like candy
- 2. What is the global population in 2050?
  - a) 10 million
  - b) 15 billion
  - c) 10 billion
  - (d) 15 trillion
- 3. How much of earth's land is being used for crop production
- ·a) 11%
- (b) 5%
  - c) 20%
  - d) 100%
- 4. Disadvantage of Vertical Farming
  - a) seasonal growth
  - b) Less jobs
  - Weather impacts plant production
  - d) creates runoff
- 5. What is needed in order to create a vertical farm
  - a) Be a pro gardener
  - b) Have to be a botanist
  - (c) Have LED lights
  - d) Have Quick Maf skills

D:

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Manikandam, Trichy-620 112







6. Why is Traditional Farming bad	
a) Creates better soil	
(b) Uses pesticides	
c) Destroys local businesses	
d) Damages the atmosphere	
7. Agriculture is a	
a) Greek word	
(b) Latin word	
c) German word	
d) Spanish	
8. The term agronomy is derived from	
(A) German word	
(B) Latin word	
Spanish	
(D) Greek word	
9. Primary resource for agriculture	
A Land, air and water	
(B) Seed, Fertilizer and Pesticide	
(C) Seed, air and water	D. C. D. Librichman M.F. Dh.B.
(D) Land, Fertilizer and water	Dr. G. Balakrishnan, M.E., Ph
10. Cultivation of rice begins in	Indra Ganesan College of Engineering
(A) 2200 BC	IG Valley, Madurai Main Road
(B) 5700 BC	Manikandam, Trichy-620 012.
(C) 7700 BC	
(D) 8700 BC	
11. The book 'Horse hoeing husbandry' was published by	
(A) Van Helmont	
(B) Gregor Johann Mendel	
(C) Jethrotyll	
(D)None	
12. Kharif, Rabi and Zaid word belong to	
(A) Urdu	
(B) French	
(C) Persian (D) Arabic	
<b>V</b> '/	







13 Principles of mercury barometers was discovered by	
(A) Torricelli	
(B) Aristotle	
(C) Pliny	
(D) Galileo	
14. The term PET was coined by	
(A) Sarkar and Biswas	
(B) Haigreaves	
(C) Thornthwaite	
(D) Mendel	
15. National Research Centre for Litchi (NRCL) is located at	
(A) Pune	
(B) Muzaffarpur	
(C) Lucknow	
(D) Kolkata	(0.1/
16. National Biodiversity Authority is located at	
(A) Chennai	10 /
(B) New Delhi	- N-1-3
(C) Nagpur	Dr. G. Balakrishnan, M.E., Ph.D.,
(D) Gurgaon	Principal Indra Ganesan College of Engineering
17. International Potato Research Centre at	IG Valley, Madurai Main Road
(A) Shimla	Manikandam, Trichy-620 012.
(B)Peru	
(C) Rome	
(D) USA	
18. Father of Horticulture	
(A) Thomas Andrew Knight	
(B) Liberty Hyde Bailey	
(C) John Lindley	
D)All of the above	
19. Word "Horticulture" is derived from	
A) Latin	7
B) English .	







(C) Greek	
(D) Italic	
20. New seed police was launched in	
(A) 1982	
(B) 1992	
©)1988	
(D) 1986	
21. Pomology is derived from	
(A) Latin	
(B) French	
(C) English	
(D) Greek	
22. The germplasm theory was proposed by	
(A) Weisman	
(B) Mendel	
(C) Darwin	
(D) Hugo de vries	
23. Which of the following bases is not present in DNA?	
(A) Adenine	CP.
(B) Thymine	a Lishman M.E. Ph.D.
© Uracil	Dr. G. Balakrishnan, M.E., Ph.D.,
(D) Cytosine	College of Engineering
24. Balbiani rings are found in which of the following	Indra Ganesan Conega IG Valley, Madurai Main Road Manikandam, Trichy-620 012,
(A) Lampbrush chromosomes	Manikandam, inchy
(B) Sex chromosomes	
© Polytene chromosomes	
(D) B chromosomes	
25. The term 'genotype' and 'phenotype' were introduced by	
W.L. Johannsen	
(B) W.Bateson	
(C) G.J. Mendel	
(D) R.C. Punnet	



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Name of the Student : Dhaum kumar

Year/Sem: II /civil

AU Register Number: 81122019301

Value Added Course on "VERTICAL FARMING""

## MCQ QUESTIONS (25X) = 26 Marks)

- 1. What is one advantage to vertical farming?
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- 2. What is the global population in 2050?
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Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesari College of Engineering IG Valley, Madurai Wain Road Manikandam Trichy-620 012.







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(A) Van Helmont (B) Gregor Johann Mendel	
<ul><li>(A) Van Helmont</li><li>(B) Gregor Johann Mendel</li><li>(D) None</li></ul>	
(A) Van Helmont (B) Gregor Johann Mendel (D) Jethrotull	
(A) Van Helmont (B) Gregor Johann Mendel (D) Jetbrotull (D) None 12. Kharif, Rabi and Zaid word belong to	



## Indra Ganesan COLLEGE OF ENGINEERING



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(B) Aristotle	
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B Peru	A P TO THE
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(B) Thymine	Dr. G. Balakrishnan, M.E., Ph.D.,
Uracil	Dr. G. Balanting Principal Indra Ganesan College of Engineering Indra Ganesan Main Read  1012
(D) Cytosine	Indra Ganesan College of English IG Valley, Madurai Main Read Ikandam, Trichy-620 012.
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## COLLEGE OF ENGINEERING

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## CERTIFICATE

# OF PARTICIPATION

Ganesan College of Engineering has successfully completed the Value Added course "VERTICAL FARMING" organised By Department Of Agricultural Engineering in association with Sri Enterprise Agro Industries This is to certify that Ms.ABINAYA.R of Il Year B.TECH- AGRI Indra Corporation conducted from 07.03.2021 to 11.03.2021.(5days) during Academic year 2022-2023.



Or. G. Balakrishnan, M.E., Ph.D.,

Sri Enterprise Agro Industries Corporation Indra Ganesan Coffege of Engineering IG Valley, Madural Main Road Manikandam, Trichy-620 012.



Principal

Indra Ganesan Engineering college



COLLEGE OF ENGINEERING

Madurai Main Road (NH-458), Manikandam, Truchirappalli - 620 012 Approved by AICTE, NewDelhi & Afhiliated to Anna University, Chennal NAAC Accredited, 218) Sintus Innitetted by UGC



## Dr. G. Balakrishnan, M.E., Ph.D. Principal Fedineering Callege of Engineering Callege of En

## CERTIFICATE

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This is to certify that Mr.DHARUN KUMAR.R of III Year B.E. CIVIL Indra Added course "VERTICAL FARMING" organised By Department Of Agricultural Engineering in association with Sri Enterprise Agro Industries Ganesan College of Engineering has successfully completed the Value Corporation conducted from 07.03.2021 to 11.03.2021.(5days) during Academic year 2022-2023.

Managing Director

Sri Enterprise Agro Industries Corporation



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Principal

Indra Ganesan Engineering college