Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Agriculture

End Sem (Even) Examination May-2022

AG3CO31 Farming System & Sustainable Agriculture

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

Duration: 3 Hrs. **Maximum Marks: 50**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q. 1	i.	Farming system approach is recommended by scientists for following reason: (a) Poverty reduction (b) Food and nutrition security (c) Sustainability (d) All of these	**1**
	ii.	What is extensive farming? (a) Getting maximum output permit of small cultivable land (b) Farming of large areas of land (c) Farming in estates where single cash crops is grown for sales (d) None of these	**1**
	iii.	_____refers to the method of multiple cropping where one crop is sown into standing crop well before its harvesting. (a) Intercropping (b) Mixed cropping (c) Relay cropping (d) Sequential cropping	**1**
	iv.	It is science and culture of honeybees and their management (a) Apiculture (b) Sericulture (c) Silviculture (d) Aquaculture	**1**
	v.	Permanent soil cover as a requirement of conservation agriculture provides- (a) Protect the soil against rain and sun (b) Provide micro and macro-organism growth in soil (c) Alter microclimate in the soil suitable for growth of plant roots and micro-organisms (d) All of these	**1**

vi. _____ is the growth of agriculture ecosystem in a self-sufficient and sustainable way to develop synergetic farming system based on principles of nature. **1**
(a) Regenerative agriculture (b) Organic farming
(c) Permaculture (d) Precision farming

vii. What is the full form of LEISA? **1**
(a) Low External Input Sustainable Agriculture
(b) Low External Input Site Specific Agriculture
(c) Low Efficiency Input Sustainable Agriculture
(d) None of these

viii. Which of the following farming system is prevalent in Malva region of MP? **1**
(a) Crop (Rice + Pulses) + Dairy + Fisheries
(b) Crop (Soybean, Wheat, Gram) + Dairy
(c) Crop (Millets, Pulses) + Animal Husbandry (Camel and Sheep/ Goat)
(d) None of these

ix. _____is a ratio between marketable crop yield and water used by the crop in evapotranspiration. **1**
(a) Field water use efficiency (b) Crop water use efficiency
(c) Fertilizer use efficiency (d) Energy efficiency

x. The basic principle of taking crop rotation is- **1**
(a) To get higher crop production
(b) To get higher returns per unit area of the soil
(c) To maintain the fertility status of the soils
(d) To keep the weeds under control

Q. 2 i. Define farming system. **1**

ii. Describe the key principles of farming system. **2**

iii. What is small scale and large-scale farming? Write their advantages and disadvantages. **5**

OR iv. Describe the components of farming system in detail. **5**

Q. 3 i. What is Intercropping? **1**

ii. Explain with an example: **3**
(a) Cropping system (b) Cropping pattern

[3]

iii. Discuss in detail about Biogas and its model. **4**

OR iv. What is multiple cropping system? Describe the types of multiple cropping system. **4**

Q. 4 i. What is sustainable agriculture? Write down its three main goals. **2**

ii. Explain HEIA and LEIA. Also write the advantages and disadvantages of HEIA. **6**

OR iii. Define conservation agriculture with its principles, advantages and limitations in detail. **6**

Q. 5 i. Enlist the components of IFS. **2**

ii. Define indigenous technical knowledge with examples. **2**

iii. Define integrated farming system and write down its objectives. **4**

OR iv. Write down the advantages of integrated farming system in detail. **4**

Q. 6 Attempt any two:

i. Define Linear programming and write the assumptions, advantages and limitations of Linear programming? **4**

ii. Describe in detail about Water Use Efficiency and Fertilizer Use Efficiency? **4**

iii. Resource flow model for: **4**
(a) Crop-livestock farming system
(b) Crop-livestock-poultry-fish system

******

Marking Scheme
AG3CO31 Farming System & Sustainable Agriculture

i.	Farming system approach is recommended by scientists for following reason: (d) All of these			**1**
ii.	What is extensive farming? (b) Farming of large areas of land			**1**
iii.	_____refers to the method of multiple cropping where one crop is sown into standing crop well before its harvesting. (c) Relay cropping			**1**
iv.	It is science and culture of honeybees and their management (a) Apiculture			**1**
v.	Permanent soil cover as a requirement of conservation agriculture provides- (d) All of these			**1**
vi.	_____ is the growth of agriculture ecosystem in a self-sufficient and sustainable way to develop synergetic farming system based on principles of nature. (c) Permaculture			**1**
vii.	What is the full form of LEISA? (a) Low External Input Sustainable Agriculture			**1**
viii.	Which of the following farming system is prevalent in Malva region of MP? (b) Crop (Soybean, Wheat, Gram) + Dairy			**1**
ix.	_____is a ratio between marketable crop yield and water used by the crop in evapotranspiration. (b) Crop water use efficiency			**1**
x.	The basic principle of taking crop rotation is- (c)To maintain the fertility status of the soils			**1**
Q. 2	i.	Define farming system.	(As per explanation)	**1**
	ii.	Principles of farming system.	(As per explanation)	**2**
	iii.	Small scale Advantages Disadvantages.	0.5 Mark 1 Mark 1 Mark	**5**
		Large-scale farming Advantages Disadvantages.	0.5 Mark 1 Mark 1 Mark	
OR	iv.	Describe the components of farming	(As per explanation)	**5**
Q. 3	i.	Intercropping	1 Mark	**1**
	ii.	(a) Cropping system (b) Cropping pattern	1.5 Marks 1.5 Marks	**3**
	iii.	Biogas and its model	(As per explanation)	**4**
OR	iv.	Multiple cropping system The types of multiple cropping system.	1 Mark 3 Marks	**4**
Q. 4	i.	Sustainable agriculture Three main goals.	1 Mark 1 Mark	**2**
	ii.	HEIA Advantages Disadvantages LEIA.	1 Mark 2 Marks 2 Marks 1 Mark	**6**
OR	iii.	Conservation agriculture its principles Advantages Limitations in detail.	1 Mark 2 Marks 1.5 Marks 1.5 Marks	**6**
Q. 5	i.	Components of IFS.	(As per explanation)	**2**
	ii.	Indigenous technical knowledge Examples	1.5 Marks 0.5 Mark	**2**
	iii.	Define integrated farming system Its objectives.	1 Mark 3 Marks	**4**
OR	iv.	Advantages of integrated	(As per explanation)	**4**
Q. 6		Attempt any two:		
	i.	Linear programming Assumptions Advantages Limitations	1 Mark 1 Mark 1 Mark 1 Mark	**4**
	ii.	Water Use Efficiency	2 Marks	**4**

	Fertilizer Use Efficiency	2 Marks	
iii.	(a) Crop-livestock farming system	2 Marks	**4**
	(b) Crop-livestock-poultry-fish system	2 Marks	

******