

Enrollment No.....



Faculty of Agriculture
End Sem (Odd) Examination Dec-2019
AG3RC01 Introductory Biology

Programme: B.Sc. (Ag.) 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. What are the basic causes of genetic diversity? **1**
 (a) Mutation (b) Genetic drift and selection
 (c) Gene flow (d) All of these
- ii. Life on the earth evolved from: **1**
 (a) Pre-existing life (b) Anew
 (c) It has not evolved (d) All of these
- iii. Interphase is a period corresponding to the cell cycle phases of: **1**
 (a) Mitosis (b) S
 (c) G₁ + S + G₂ (d) G₁ + S + G₂ + M
- iv. The general life cycle of a eukaryotic cell has the sequence: **1**
 (a) 1N → meiosis → 2N → fertilization → 1N
 (b) 2N → meiosis → 1N → fertilization → 2N
 (c) 1N → Mitosis → 2N → fertilization → 1N
 (d) 2N → Mitosis → 1N → fertilization → 2N
- v. Rhizome, Tuber and Bulb are modification of: **1**
 (a) Root (b) Stem
 (c) Both (a) and (b) (d) None of these
- vi. Stamen is a unit of which reproductive parts of flower **1**
 (a) Androecium (b) Gynoecium
 (c) Calyx (d) Corolla
- vii. According to the duration of plant life they may either be classified as: **1**
 (a) Annuals (b) Biennials (c) Perennials (d) All of these
- viii. Cereal crops such as maize, wheat, rice, barley and millet are **1**
 members of family
 (a) Brassicaceae (b) Fabaceae
 (c) Poaceae (d) None of these

P.T.O.

- ix. Ravi Nilli and Murrah are famous breed of: **1**
 (a) Cow (b) Goat (c) Horse (d) Buffalo
- x. Livestock is related to which field? **1**
 (a) Animal and Poultry (b) Fishery
 (c) Honeybee (d) None of these
- Q.2 i. Define diversity in nutshell. **2**
 ii. How did life originate on the earth? What are the prominent **6**
 characteristics of living organisms?
- OR iii. What are the basic causes that lead to diversification of living **6**
 organisms?
- Q.3 Attempt any two:
 i. What is basic significance of meiotic division in nature? What is the **4**
 basic role of mitosis in nature?
 ii. Outline various stages of meiosis in a plant. **4**
 iii. Differentiate between mitotic and meiotic division. **4**
- Q.4 i. What is a fruit? How it is different from a seed? **2**
 ii. Describe the generalized structure of dicotyledonous and a **6**
 monocotyledonous seed.
- OR iii. Describe in detail about structure of flower. **6**
- Q.5 Attempt any two:
 i. Describe the families Poaceae and Fabaceae on the basis of: **4**
 (a) Vegetative characteristics (b) Floral characteristics
 (c) Economic importance
 ii. Write note on: Economic importance of family Brassicaceae. **4**
 iii. What is plant systematics? Write two characteristics of family **4**
 Brassicaceae.
- Q.6 Attempt any two:
 i. Write name of some important indigenous and foreign breed of cows. **4**
 Also write three important breed of buffaloes.
 ii. Write a short note on importance of animals in Indian Farming. **4**
 iii. Write about animal rearing in agriculture farming system. **4**

Marking Scheme
AG3RC01 Introductory Biology

Q.1	i.	What are the basic causes of genetic diversity?		1
		(d) All of these		
	ii.	Life on the earth evolved from:		1
		(a) Pre-existing life		
	iii.	Interphase is a period corresponding to the cell cycle phases of:		1
		(d) G 1 + S +G 2 +M		
	iv.	The general life cycle of a eukaryotic cell has the sequence:		1
		(b) 2N → meiosis→ 1N → fertilization →2N		
	v.	Rhizome, Tuber and Bulb are modification of:		1
		(b) Stem		
	vi.	Stamen is a unit of which reproductive parts of flower		1
		(a) Androecium		
	vii.	According to the duration of plant life they may either be classified as:		1
		(d) All of these		
	viii.	Cereal crops such as maize, wheat, rice, barley and millet are members of family		1
		(c) Poaceae		
	ix.	Ravi Nilli and Murrah are famous breed of:		1
		(d) Buffalo		
	x.	Livestock is related to which field?		1
		(a) Animal and Poultry		

Q.2	i.	Definition diversity in nutshell.	2 marks	2
	ii.	Origin of earth Characters	2 marks (1 mark*4)	6
OR	iii.	Causes	(1 mark*6)	6

Q.3		Attempt any two:		
	i.	Significance of meiotic division(2 points)	(1 mark*2)	4
		Significance /Role of mitosis (2 points)	(1 mark*2)	
	ii.	Stages of meiosis in a plant.(As per explanation)	4 marks	4
	iii.	4 Difference specific	(1 mark*4)	4

Q.4	i.	Definition of fruit	1 mark	2
		Different from a seed	1 mark	
	ii.	Difference (6 Points)	(1 mark*6)	6

OR	iii.	Structure of flower	2 marks	6
		Describe in details	4 marks	

Q.5		Attempt any two:		
	i.	Families Poaceae	2 marks	4
		Fabaceae	2 marks	
	ii.	Economic importance of family Brassicaceae.	(1 mark*4)	4
Q.6	iii.	Plant systematic	2 marks	4
		Two characteristics	(1 mark*2)	
		Attempt any two:		
	i.	Example with characteristics	(1 mark*4)	4
	ii.	Importance of animals	(1 mark*4)	4
	iii.	Description (Specific)	4 marks	4
