ZOO/VI/CC/23b

Student's Copy

2024

(CBCS)

(6th Semester)

ZOOLOGY

TWELFTH (B) PAPER

(Animal Ecology and Wildlife)

Full Marks: 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A-OBJECTIVE)

(Marks: 10)

Tick (✓) the correct answer in the brackets provided : 1×10=10				
1. Ecological pyramid is always upright in				
(a) pyramid of biomass () (b) pyramid of energy	()			
(c) pyramid of number () (d) None of the above	()			
2. The term 'ecology' was coined by				
(a) Taylor () (b) Charles Elton ()			
(c) Ernst Haeckel () (d) Odum ()				
 The main source of all the fixed carbons both in the living organ fossil deposit is 	ism and			
(a) CO () (b) CO_2 ()				
(c) CH_4 () (d) $COOH$ ()				
4. Which of the following cycles leads to the formation of a weak sulphuric acid?				
(a) Carbon cycle () (b) Nitrogen cycle ()			
(c) Sulphur cycle () (d) Phosphorus cycle	()			

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	The species which have much greater influence on a community (a) link species () (b) keystone species ((c) endangered species () (d) cryptic species (The final stage of succession in a community is	are))
	(a) nudation () (b) invasion () (c) reaction () (d) climax ()	
	The number of population per unit area is (a) mortality () (b) natality () (c) density () (d) fecundity () The number of different species in a given community is called	
	 (a) species diversity () (b) species evenness ((c) species abundance () (d) species radiation (Periyar National Park in Kerala is preserving the (a) wild elephant () (b) one-horned rhinoceros () (c) Asiatic lion () (d) Royal Bengal tiger ())
	In India, Project Tiger was initiated in (a) 1970 () (b) 1971 () (c) 1972 () (d) 1973 ()	
	(SECTION : B-SHORT ANSWERS)	
Write	(Marks : 15) e short notes on the following :	3×5=15
	Unit—I	
	Interspecific interaction OR Ecology	

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Contd.

Unit—II

- Denitrification
 - OR

4. Symbiotic nitrogen fixation

5. Secondary succession OR

6. Liebig's law of the minimum

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Unit—IV
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7. Natality

OR

8. Species richness

UNIT-V

9. Non-renewable resources

OR

10. Keystone species

(SECTION : C-DESCRIPTIVE)

(Marks: 50)

Answer the following questions :

Unit—I

 What is ecological pyramid? Explain the different types of ecological pyramid with suitable example. 2+8=10

OR

2. Write short notes on : 5+5=10
(a) Detritus food chain
(b) Food web



Unit—II

3. Explain the process involved in hydrological cycle with diagram. 10

OR

- Describe the detailed process of phosphorus cycle with suitable diagram.
 10
 - UNIT-III
- What is greenhouse effect? Write the causes and effect of greenhouse effect.
 - OR
- 6. Write short notes on : 5+5=10
 - (a) Shelford's law of tolerance
 - (b) Biotic community concept

Write short notes on :

- (a) Sorensen's indices
- (b) Shannon-Wiener indices

OR

- 8. Write short notes on :
 - (a) Species diversity
 - (b) S-shaped population growth curve

UNIT-V

 Discuss the international programmes associated with wildlife management and conservation.
 10

OR

10. Discuss the role of anthropogenic activity towards the environment. 10

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5+5=10

5+5=10

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(SECTION : A-OBJECTIVE)

(Marks: 10)

Tick (✓) the correct answer in the brackets provided :

1. Ecological pyramid is always upright in (b) pyramid of energy (a) pyramid of biomass) ()) (d) None of the above) (c) pyramid of number (ſ 2. The term 'ecology' was coined by (b) Charles Elton ((a) Taylor ()) (c) Ernst Haeckel () (d) Odum () 3. The main source of all the fixed carbons both in the living organism and fossil deposit is (b) CO_2 () (a) CO () (d) COOH () (c) CH₄ () 4. Which of the following cycles leads to the formation of a weak sulphuric acid? (b) Nitrogen cycle () (a) Carbon cycle) ((d) Phosphorus cycle () (c) Sulphur cycle ()

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1×10=10

Ģ The species which have much greater influence on a community are

(c)	(a)
endangered species	link species (
<u> </u>	<u> </u>
(d)	(<i>b</i>)
i) cryptic species	keystone species
	-

9 The final stage of succession in a community is

_	_
<u>0</u>	<u>a</u>
reaction	nudation
	_
_	
(d)	(d)
climax (invasion
_	

7 The number of population per unit area is

(c)	(a)
density	mortality
-	-
<u> </u>	-
(d)	(d)
fecundity	natality
-	-
_	-

œ The number of different species in a given community is called

- a species diversity Ð species evenness
- <u>0</u> species abundance (d) species radiation
- ø Periyar National Park in Kerala is preserving the
- a) wild elephant
- G one-horned rhinoceros
- <u>0</u> Asiatic lion
- a) Royal Bengal tiger

10 In India, Project Tiger was initiated in

(c)	(a)
1972	1970
-	-
-	-
6	<i>U</i>
Ę,	(b)
1973	1971
-	
	_

(SECTION : B-SHORT ANSWERS)

(Marks: 15)

Write short notes on the following :

UNIT-I

 $3 \times 5 = 15$

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Ecology

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Interspecific interaction

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-		

ω Denitrification

S

4 Symbiotic nitrogen fixation

UNIT-III

ŝ Secondary succession

QR

6 Liebig's law of the minimum

UNIT-IV

7 Natality

OR

œ Species richness

UNIT-V

<u>ب</u> Non-renewable resources

QR R

Keystone species

(SECTION : C-DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

 $10 \times 5 = 50$

UNIT-I

۲

What is pyramid with suitable example. ecological pyramid? Explain the different types of ecological 0R 2+8=10

N Write short notes on :

a) Detritus food chain

Ð Food web

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[Contd.

5+5=10

UNIT-II

6.
Explain
the
process
involved
5
hydrological
ç
le with
diagram.

5

OR

4 Describe the detailed process of phosphorus cycle with suitable diagram. 10

UNIT-III

ġ What effect. is greenhouse effect? Write the causes and effect of greenhouse 10

0R

5+5=10

- 6. Write short notes on :
- (a) Shelford's law of tolerance
- (b) Biotic community concept

UNIT-IV

5+5=10

- 7. Write short notes on :
- (a) Sorensen's indices
- (b) Shannon-Wiener indices

0R

- 00 Write short notes on : 5+5=10
- (a) Species diversity
- (b) S-shaped population growth curve

UNIT-V

ġ management and conservation. Discuss the international programmes associated with wildlife 10

OR

<u>10</u> Discuss the role of anthropogenic activity towards the environment. 5

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(Marks: 10)

 $1 \times 10 = 10$

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÷	1. Ecological pyramid is always upright in	(
		-
	(c) pyramid of number () (a) None of the more	
3	2. The term 'ecology' was coined by	
	(a) Taylor () (b) Charles Euton ()	
	(c) Ernst Haeckel () (d) Odum ()	
б.	3. The main source of all the fixed carbons both in the living organism and	n and
	fossil deposit is	
	(a) CO () (b) CO ₂ ()	
	(c) CH_4 () (d) $COOH$ ()	
4	4. Which of the following cycles leads to the formation of a weak sulphuric	huric

acid?

		(
	Nitrogen cycle	Phosphorus cycle
	(q)	(q)
	-	()
	cycle (cycle
	Carbon c	Sulphur
aria	(a)	(c)

ú	The s	The species which have much greater influence on a community	uch great	er in	fluence on a com	munity	are
	(a) lii	link species ((q)	(b) keystone species	· -	-
	(c) eı	endangered species	()	(q)	cryptic species	_	-
	The fi (a) n (c) r	The final stage of succession in a community is (a) nudation () (b) invasion (c) reaction ()	on in a co	(q)	unity is invasion	-	
	Then (a) IT (c) d	The number of population per unit area is (a) mortality () (b) number of bound (c) density	per unit a	(a) (b)	cimax is natality (_ ~	
ø	The r (a) s (c) s	The number of different species in a given community is called (a) species diversity () (b) species evenness (c) species abundance	ecies in a	(a) (b)	 (d) fecundity (given community is c (b) species evenness) alled (-
6		Periyar National Park in Kerala is preserving the (a) wild elephant () (b) one-horned rhinoceros () (c) Asiatic lion ()	() erala is pr) ((a) eseri	species radiation ing the	_	-
	(d) F 10. In In (a) (c)	 (d) Royal Bengal tiger (1) In India, Project Tiger was initiated in (a) 1970 (b) 1972 (c) 1972 (d) (c) 1972 	() initiated i	ц (д)	1971 () 1973 ()		
		(SECTI	SECTION : B-SI	HORT	SHORT ANSWERS)		
	te sho	Write short notes on the following :	(<i>Marks</i> : 15 g :	: 15			3×5=15
	Inter 0	 Interspecific interaction OR 	UNIT-	T			
	2. Ecology	EV.					

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Contd.

UNIT-II

3. Denitrification

8 No

Symbiotic nitrogen fixation 4

UNIT--III

Secondary succession ທ່

g

6. Liebig's law of the minimum

UNIT-IV

7. Natality

g

Species richness ø

U-TINU

9. Non-renewable resources

g

10. Keystone species

(SECTION : C-DESCRIPTIVE)

(Marks : 50)

 $10 \times 5 = 50$

Answer the following questions :

UNIT-I

2+8=10ecological pyramid? Explain the different types of ecological g pyramid with suitable example. 1. What is

5+5=10

Detritus food chain Write short notes on :

(a)

ä

Food web (q) Contd.

e

	UNITII	
с,	3. Explain the process involved in hydrological cycle with diagram.	10
	OR OR	
4	4. Describe the detailed process of phosphorus cycle with suitable diagram.	10
	UNIT	
Ń	. What is greenhouse effect? Write the causes and effect of greenhouse effect.	10
	OR	
ø.	. Write short notes on : 5+5=10	=10
	(a) Shelford's law of tolerance(b) Biotic community concept	
	UNIT—IV	
7.	. Write short notes on : 5+5=10	10
	(a) Sorensen's indices	
	(b) Shannon-Wiener indices	
	OR	
ø	. Write short notes on : 5+5=10	0
	Species diversity	
	(b) S-shaped population growth curve	
	UNITV	
6	9. Discuss the international programmes associated with wildlife management and conservation.	10
	OR	
10.	Discuss the role of anthropogenic activity towards the environment.	10

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	3 4	5