2024

(NEP-2020)

(3rd Semester)

BOTANY (MAJOR/MINOR)

(Agroforestry, Paleobotany and Palynology)

Full Marks: 75

Time: 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A-OBJECTIVE)

(Marks: 10)

Tick	(V)	the correct answer in	the	brac	kets pro	vided :				1×10=10
1.	(a)	negative biochemica amensalism (allelospoly (al in	fluer	(b)	ed by some pla allelopathy allelochemics	nts (is c	alled)	
2.	(a) (b) (c)	ich one of the follow Tectona grandis Eucalyptus spp. Mangifera indica Casuarina equisetifo	(is a)))	fertilizer	tree?				
3.	(a) (b) (c)	oldest known agrof alley cropping taungya system shifting cultivation home garden	ores (try s) (ystem is					

4.	Shoots below the cut is called
	(a) thinning ()
	(b) lopping ()
	(c) pollarding ()
	(d) coppicing ()
_	
5.	Horticulture operation commonly used to increase fruit production at a convenient height for harvesting is
	(a) bushing ()
	(b) training ()
	(c) bending ()
	(d) pollarding ()
6.	Rhynia belongs to a geological period of
	(a) Carboniferous () (b) Permean ()
	(c) Cambrian () (d) Devonian ()
7.	The geological time scale is a system used to
	(a) determine the age of rock ()
	(b) describe the history of life on earth ()
	(c) measure the rate of erosion ()
	(d) calculate the distance between tectonic plates ()
8	. The boundary between the Palaeozoic and Mesozoic era is marked by
	(a) the extinction of the dinosaurs ()
	(b) the first appearance of flowering plants ()
	(c) the formation of the Appalachian Mountains ()
	(d) the Permian-Triassic mass extinction ()
9	. Cyptoplasm of the pollen grains is rich in
	(a) starch ()
	(b) proteins ()
	(c) minerals ()
	(d) vitamins ()

10.	The	part o	f the polle	n gra	ains	whi	ch is neares	t to the	centre c	of the tetra	d is	
	(a)	polar	pole	()							
	(b)	polar	axis	()				78.			
	(c)	dista	l pole	()							
	(d)	proxi	mal pole		()						
					9.				0.96	* 0 N		
				(SI	ECTI	ON :	В—ѕнокт	ANSWE	RS)			
						(Marks: 15)				
W	rite sl	nort no	tes on any	five	of th	e fo	llowing, taki	ng at lea	st one fr	om each U	nit :	
											3×5=15	5
							Trans. T	1 19				
							Unit—I					
	1. Ef	fects o	of shifting	cult	ivati	on						
	2. M	ultipu	rpose tree	s								
							Unit—II					
	3. P	ositive	tree-crop	inte	racti	on						
										71		
	4. H	edging	3									
							TINUTE III					
							Unit—III					
	5. In	mporta	ance of fo	ssil s	study	7						
	6. I	nterna	l structur	e of	Rhy	nia						
							Unit—IV	r (1)				
	7. 5	Signific	ance of p	oller	wa	11						
	8.]	mport	ance of p	alyno	ology							

(SECTION : C-DESCRIPTIVE)

(Marks: 50)

10×5=50 Answer five questions, taking at least one from each Unit: UNIT—I 1. Give a brief account on the benefits and constraints of agroforestry. 10 5+5=10 2. Write short notes on the following: (a) Homestead garden (b) Alley cropping UNIT—II 1+9=103. What is allelopathy? Write down the impacts on agroforestry. 5+5=10 4. Write notes on the following: (a) Pollarding (b) Pruning UNIT—III 5. Give a brief account on geological time scale. 10 5+5=10 6. Write notes on the following: (a) Importance of fossil study (b) Stem anatomy of Lyginopteris UNIT-IV 7. Describe the pollen wall structure and its significance with labelled 10 diagram. 8. Write notes on the following: 5+5=10 (a) Role of pollen morphology in plant taxonomy (b) Dispersal of pollen grains

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(Agroforestry, Paleobotany and Palynology)

Full Marks: 75

Time: 3 hours

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(SECTION : A-OBJECTIVE)

(Marks: 10)

Tick	(>)	the correct answer in	the l	oracket	s prov	vided :				1×10=10
1.	The	negative biochemica	1 inf	uence	exert	ed by some plan	nts	is o	alled	
	(a)	amensalism ()		(b)	allelopathy	()		
	(c)	allelospoly ()	A	(d)	allelochemics		()	
2.	Whi	ich one of the follow	ing is	s a fert	ilizer	tree?				
	(a)	Tectona grandis	()						
	(b)	Eucalyptus spp.	()						
	(c)	Mangifera indica	()		5.				
	(d)	Casuarina equisetifo	lia	()	19.				
3.	The	oldest known agrof	orest	ry syst	em is					
	(a)	alley cropping	()						
	(b)	taungya system	()						
	(c)	shifting cultivation		()						
	(d)	home garden ()							

	Cutting a pole tree at some height above the ground level to produce new
4.	shoots below the cut is called
	(a) thinning ()
	(b) lopping ()
	(c) pollarding ()
	(d) connicing ()
5	Horticulture operation commonly used to increase fruit production at a
٥.	convenient height for harvesting is
	(a) bushing ()
	(b) training ()
	(c) bending ()
	(d) pollarding ()
6.	Rhynia belongs to a geological period of
	(a) Carboniferous () (b) Permean ()
	(c) Cambrian () (d) Devonian ()
7.	The geological time scale is a system used to
	(a) determine the age of rock ()
	(b) describe the history of life on earth ()
	(c) measure the rate of erosion ()
	(d) calculate the distance between tectonic plates ()
8.	The boundary between the Palaeozoic and Mesozoic era is marked by
	(a) the extinction of the dinosaurs ()
	(b) the first appearance of flowering plants ()
	(c) the formation of the Appalachian Mountains ()
	(d) the Permian-Triassic mass extinction ()
9.	. Cyptoplasm of the pollen grains is rich in
	(a) starch ()
	(b) proteins ()
	(c) minerals ()
	(d) vitamins ()

10. The part o	f the polle	n grai	ns wh	ich is nearest to the centre of the tetrad is				
(a) polar	pole	()					
(b) polar	axis	()	1904				
(c) distal	l pole	()					
(d) proxi	mal pole	()					
	5,4							
		(SEC	CTION	: B—short answers)				
				(Marks: 15)				
Write short no	Write short notes on any <i>five</i> of the following, taking at least <i>one</i> from each Unit : $3\times5=15$							
				Unit—I				
1. Effects	1. Effects of shifting cultivation							
2. Multipu	2. Multipurpose trees							
				Unit—II				
3. Positive	tree-crop	inter	action					
4. Hedgin	g							
				Unit—III				
5. Import	ance of fo	ssil s	tudy					
6. Interna	al structu	re of	Rhynic	a				
				UNIT—IV				
7. Signifi	icance of	pollen	wall					
	tance of p							

(SECTION : C-DESCRIPTIVE)

(Marks: 50)

Answer five questions, taking at least one from each Unit: 10×5=50 UNIT-I 1. Give a brief account on the benefits and constraints of agroforestry. 10 2. Write short notes on the following: 5+5=10(a) Homestead garden (b) Alley cropping Unit—II 3. What is allelopathy? Write down the impacts on agroforestry. 1+9=104. Write notes on the following: 5+5=10 (a) Pollarding (b) Pruning Unit—III Give a brief account on geological time scale. 10 6. Write notes on the following : 5+5=10 (a) Importance of fossil study (b) Stem anatomy of Lyginopteris UNIT-IV 7. Describe the pollen wall structure and its significance with labelled 10 diagram. 5+5=10 8. Write notes on the following: (a) Role of pollen morphology in plant taxonomy (b) Dispersal of pollen grains