In The Name Of Allah

# AMEER TUITION CENTRE KAYALPATTANAM – 628 204.

Register No :						
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# HSC SECOND YEAR BIOLOGY BOOK BACK MCQ - 2025

Time Allowed: 3.00 Hours	Maximum Marks : 153

**Instructions:** (1) check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.

(2) Use Black or Blue ink to rite and pencil to draw diagrams.

Note: Candidate should answer PART – I (Bio - Botany) and PART – II (BIO - Zoology) in separate answer – books.

## PART - II BIO - ZOOLOGY

CHAPTER: 1 REPRODUCTION IN ORGANISMS  $05 \times 1 = 05$ 

- 1. In which type of parthenogenesis are only males produced?
  - a) Arrhenotoky
- b) Thelytoky
- c) Amphitoky
- d) Both a and b

- 2. The mode of reproduction in bacteria is by
  - a) Formation of gametes

b) Endospore formation

c) Conjugation

- d) Zoospore formation
- 3. In which mode of reproduction variations are seen
  - a) Asexual
- b) Parthenogenesis c) Sexual
- d) Both a and b
- 4. **Assertion:** In bee society, all the members are diploid except drones.

**Reason:** Drones are produced by parthenogenesis.

- A. If both A and R are true and R is correct explanation for A
- B If both A and R are true but R is not the correct explanation for A
- C. If A is true but R is false
- D. If both A and R are false.
- 5. **Assertion:** Offsprings produced by asexual reproduction are genetically identical to the Parent.

**Reason:** Asexual reproduction involves only mitosis and no meiosis.

- A. If both A and R are true and R is correct explanation for A
- B. If both A and R are true but R is not the correct explanation for A
- C. If A is true but R is false

D. If both A and R are false.

CHAPTER: 2

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16 x 1 = 16

1.	The mature sperms a	are stored in the				
	a. Seminiferous tubu	les	b.Vas de	ferens		
	c. Epididymis		d. Semin	nal vesicle		
2.	The male sex hormon	The male sex hormone testosterone is secreted from				
	a. Sertoli cells	b. Leydig cell c.	Epididymis	d. Prostate	gland	
3.	The glandular access	ory organ which prod	uces the larg	gest proportion	of semen is	
	a. Seminal vesicle		b. Bulbo	b. Bulbourethral gland		
	c. Prostate gland		d. Muco	us gland		
4.	The male homologue	of the female clitoris i	is			
	a. Scrotum	b. Penis	c. Urethra	d.Tes	stis	
5.	The site of embryo im	plantation is the				
	a. Uterus	b. Peritoneal cavity	c. Vagina	d. Fa	llopian tube	
6.	The foetal membrane	that forms the basis	of the umbili	ical cord is		
	a. Allantois	b. Amnion	c. Chorion	d. Yo	lk sac	
7.	The most important hormone in intiating and maintaining lactation after birth is					
	a. Oestrogen	b. FSH	c. Prolactin	d. Ox	xytocin	
8.	Mammalian egg is					
	a. Mesolecithal and r	on cleidoic	b. Microl	lecithal and no	n cleidoic	
	c. Alecithal and non	cleidoic	d. Alecitl	hal and cleidoic		
9.	The process which th	e sperm under goes b	efore penetra	ating the ovum	is	
	a. Spermiation	b. Cortical reaction	c. Spern	niogenesis	d. Capacitation	
10	). The milk secreted by	y the mammary gland	s soon after	child birth is ca	alled	
	a. Mucous	b. Colostrum	c. Lacto	se	d. Sucrose	
11	l. Colostrum is rich in	L				
	a. Ig E	b. Ig A	c. Ig D		d. Ig M	
12	2. The Androgen Bindi	ng Protein (ABP) is pr	oduced by			
	a. Leydig cells	b. Hypothalamus	c. Sertoli	i cells	d. Pituitary gland	
13	3. Find the wrongly ma	atched pair				
	a. Bleeding phase -	fall in oestrogen and p	progesterone	:		
	b. Follicular phase -	rise in oestrogen				
	c. Luteal phase - ris	e in FSH level				
	d. Ovulatory phase	- LH surge				

**HUMAN REPRODUCTION** 

- 14. A In human male, testes are extra abdominal and lie in scrotal sacs.
  - R Scrotum acts as thermoregulator and keeps temperature lower by 20C for normal Sperm production
  - (a) A and R are true, R is the correct explanation of A
  - b. A and R are true, R is not the correct explanation of A
  - c. A is true, R is false
  - d. Both A and R are false
- 15. A Ovulation is the release of ovum from the Graafian follicle.
  - R It occurs during the follicular phase of the menstrual cycle.
  - a. A and R are true, R is the correct explanation of A
  - b. A and R are true, R is not the correct explanation of A
  - c. A is true, R is false
  - d. Both A and R are false
- 16. A Head of the sperm consists of acrosome and mitochondria.
  - R Acrosome contains spiral rows of mitochondria.
  - a. A and R are true, R is the correct explanation of A
  - b. A and R are true, R is not the correct explanation of A
  - c. A is true, R is false
  - d. Both A and R are false

### CHAPTER: 3

#### REPRODUCTIVE HEALTH

 $21 \times 1 = 21$ 

- 1. Which of the following is correct regarding HIV, hepatitis B, gonorrhoea and trichomoniasis?
  - (a) Gonorrhoea is a STD whereas others are not.
  - (b) Trichomoniasis is a viral disease whereas others are bacterial.
  - (c) HIV is a pathogen whereas others are diseases.
  - (d) Hepatitis B is eradicated completely whereas others are not.
- 2. Which one of the following groups includes sexually transmitted diseases caused by bacteria only?
  - (a) Syphilis, gonorrhoea and candidiasis
- (b) Syphilis, chlamydiasis and gonorrhoea
- (c) Syphilis, gonorrhoea and trichomoniasis (d) Syphilis, trichomoniasis and pediculosis
- 3. Identify the correct statements from the following
  - (a) Chlamydiasis is a viral disease.

- (b) Gonorrhoea is caused by a spirochaete bacterium, Treponema palladium.
- (c) The incubation period for syphilis is 2 to 14 days in males and 7 to 21 dys in females
- (d) Both syphilis and gonorrhoea are easily cured with antibiotics.
- 4. A contraceptive pill prevents ovulation by
  - (a) blocking fallopian tube
  - (b) inhibiting release of FSH and LH
  - (c) stimulating release of FSH and LH
  - (d) causing immediate degeneration of released ovum.
- 5. The approach which does not give the defined action of contraceptive is
  - (a) Hormonal contraceptive Prevents entry of sperms, prevent ovulation and

fertilization

(b) Vasectomy Prevents - spermatogenesis

(c) Barrier method - Prevents fertilization

(d) Intra uterine device - Increases phagocytosis of sperms, suppresses sperm

Motility and fertilizing capacity of sperms

6. Read the given statements and select the correct option.

**Statement 1:** Diaphragms, cervical caps and vaults are made of rubber and are inserted into the female reproductive tract to cover the cervix before coitus.

Statement 2: They are chemical barriers of conception and are reusable.

- (a) Both statements 1 and 2 are correct and statement 2 is the correct explanation of statement 1.
- (b) Both statements 1 and 2 are correct but statement 2 is not the correct explanation of statement 1.
- (c) Statement 1 is correct but statement 2 is incorrect.
- (d) Both statements 1 and 2 are incorrect.

(c) A-(i), B-(iv), C-(ii), D-(iii)

7. Match column I with column II and select the correct option from the codes given below.

Column I	Column II
A. Copper releasing IUD	(i) LNG-20
B. Hormone releasing	(ii) Lippes loop IUD
C. Non medicated IUD	(iii) Saheli
D. Mini pills	(iv) Multiload-375
(a) A-(iv), B-(ii), C-(i), D-(iii)	(b) A-(iv), B-(i), C-(iii), D-(ii)

(d) A-(iv), B-(i), C-(ii), D-(iii)

a) AB

b) O

combination DdXDd(both Rh positive)

a) All will be Rh-positive

c) About ¾ will be Rh negative

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8. Select the incorrect a	ction of hormona	al contraceptive	pills from the	following
(a) Inhibition of sperr	natogenesis.			
(b) Inhibition of ovula	ition.			
(c) Changes in cervica		ng its ability to	allow passage	and transport of
sperms.	•	S 3	1 0	•
(d) Alteration in uter	ine endometrium	ı to make it uns	suitable for imr	olantation.
(**)				
CHAPTER: 4 PRI	NCIPLES OF INF	IERITANCE AN	ID VARIATION	V 21 x 1 = 21
1. Haemophilia is more	common in male	s because it is		
a. Recessive characte	r carried by Y-ch	romosome		
b. Dominant characte	er carried by Y-ch	nromosome		
c. Dominant trait car	ried by X-chromo	osome		
d. Recessive trait car	ried by X-chromo	osome		
2. ABO blood group in r	nan is controlled	by		
a) Multiple alleles	b) Lethal genes	c) Sex linke	d genes d)	Y-linked genes
3.Three children of a far	nily have blood g	groups A, AB an	d B. What cou	ld be the genotypes of
their parents?				
a) IA IB and ii	b) Ia Io and IBIo	c) IB IB and I	(A IA d)	Ia Ia and ii
4. Which of the followin	g is not correct?			
a. Three or more alle	les of a trait in th	ne population a	re called multi	ple alleles.
b. A normal gene un	dergoes mutation	ns to form many	7 alleles	
c.Multiple alleles ma	p at different loci	i of a chromoso	me	
d. A diploid organism	n has only two all	leles out of mar	ny in the popul	ation
5. Which of the followin	g phenotypes in t	the progeny are	possible from	the parental
combination				
a. AxB?A and B only	b. A,B and AB	only c. AB c	only d.	A,B,AB and O
6. Which of the followin	g phenotypes is r	not possible in t	the progeny of	the parental
genotypic combinatio	n IaIo x IaIa?			

7. Which of the following is true about Rh factor in the progeny of the parental genotypic

c) A

d) B

d) About one fourth will be Rh negative

b) Half will be Rh positive

8. W	hat can be the bloc	od group of offspring	when both parents have	AB blood group?
a)	AB only b) A, B an	d AB c) A, B, AB and	Od) A and B only	
9. If	the childs blood gr	oup is 'O' and fathers	s blood group is 'A' and ı	mother's blood group is
B	the genotype of th	e parents will be		
а	) Ia Ia and Ib I $_{ m o}$	b) IA Io and IB Io	c) IA Io and IoIo	d) IoIo and IB IB
10. 2	XO type of sex dete	rmination and XY typ	oe of sex determination a	are examples of
а	) Male heterogame	ty	b) Female heteroga	mety
C	) Male homogamety	<b>y</b>	d) Both (b) and (c)	
11. 1	In an accident there	e is great loss of bloo	d and there is no time to	analyse the blood
8	group which blood	can be safely transfer	rred?	
ä	a) 'O' and Rh negat	ive	b) 'O' and Rh positi	ive
(	c)'B' and Rh negativ	ve	d) 'AB' and Rh posi	tive
12. 1	Father of a child is	colourblind and motl	her is carrier for colourb	lindness, the
1	probability of the cl	hild being colourbling	d is	
ä	a. 25%	b) 50%	c) 100%	d) 75%
13. /	A marriage betweer	a colourblind man a	and a normal woman pro	oduces
1	A. All carrier daugh	iters and normal sons	S	
]	B. 50% carrier dau	ghters, 50% normal d	laughters	
(	C. 50% colourblind	sons, 50% normal so	ons	
]	D. All carrier offspr	ings		
14. ]	Mangolism is a gen	etic disorder which is	s caused by the presence	e of an extra
(	chromosome numb	er		
1	A. 20	b) 21	c) 4	d) 23
15. l	Klinefelters' syndro	me is characterized b	y a karyotype Of	
ä	a. XYY	b) XO	c) XXX	d) XXY
16. 1	Females with Turne	ers' syndrome have		
ä	a)Small uterus		b) Rudimentary ova	aries
(	c) Underdeveloped	breasts	d) All of these	
17. ]	Pataus' syndrome i	s also referred to as		
á	a).13-Trisomy	b) 18-Trisormy	c) 21-Trisormy	d) None of these
18. '	"Universal Donor" a	and "Universal Recipi	ents" blood group ar	andrespectively
á	a).AB, O	b) O, AB	c) A, B	d) B, A
19. 2	ZW-ZZ system of se	ex determination occu	ırs in	

6. What is the basis for the difference in the synthesis of the leading and lagging strand of

(a) Origin of replication occurs only at the 5' end of the molecules.

(b) DNA ligase works only in the  $3' \rightarrow 5'$  direction.

DNA molecules?

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	(c) DNA polymerase can join new nucleotides only to the 3' end of the growing stand.
	(d) Helicases and single-strand binding proteins that work at the 5' end.
7.	Which of the following is the correct sequence of event with reference to the central
	dogma?
	(a) Transcription, Translation, Replication (b) Transcription, Replication, Translation
	(c) Duplication, Translation, Transcription (d) Replication, Transcription, Translation
8.	Which of the following statements about DNA replication is not correct?
	(a) Unwinding of DNA molecule occurs as hydrogen bonds break.
	(b) Replication occurs as each base is paired with another exactly like it.
	(c) Process is known as semi conservative replication because one old strand is
	conserved in the new molecule.
	(d) Complementary base pairs are held together with hydrogen bonds.
9.	Which of the following statements is not true about DNA replication in eukaryotes?
	(a) Replication begins at a single origin of replication.
	(b) Replication is bidirectional from the origins.
	(c) Replication occurs at about 1 million base pairs per minute.
	(d) There are numerous different bacterial chromosomes, with replication ocurring in
	each at the same time.
10	O. The first codon to be deciphered was which codes for
	(a) AAA, proline (b) GGG, alanine (c) UUU, Phenylalanine (d)TTT, arginine
1	1. Meselson and Stahl's experiment proved
	(a)Transduction (b) Transformation
	(c) DNA is the genetic material (d) Semi-conservative nature of DNA replication
13	3. An operon is a:
	(a) Protein that suppresses gene expression
	(b) Protein that accelerates gene expression
	(c) Cluster of structural genes with related function
	(d) Cono that arritated other games on or off

- (d) Gene that switched other genes on or off
- 14. When lactose is present in the culture medium:
  - (a) Transcription of lac y, lac z, lac a genes occurs.
  - (b)Repressor is unable to bind to the operator
  - (c) Repressor is able to bind to the operator
  - (d)Both (a) and (b) are correct

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CHAPTER: 6	EVOLUTION	$16 \times 1 = 16$

1) The first life on earth	originated			
a) in air	b) on land	c) in wate	r d	d) on mountain
2) Who published the b	ook "Origin of sp	pecies by Natu	ral Selection" i	n 1859?
a) Charles Darwin	b) Lamarck	c) Weisma	ınn d	l) Hugo de Vries
3) Which of the followin	g was the contri	bution of Hug	o de Vries?	
a) Theory of mutatio	n	b)	Theory of natu	ural Selection
c) Theory of inherita	nce of acquired	characters d	Germplasm th	neory
4) The wings of birds ar	nd butterflies is a	an example of		
a) Adaptive radiation	ı	b)	convergent evo	olution
c) divergent evolutio	n	d)	variation	
5) The phenomenon of '	' Industrial Mela	nism" demons	strates	
a) Natural selection		b)	induced mutat	tion
c) reproductive isola	tion	d)	geographical is	solation
6) Darwin's finches are	an excellent exa	mple of		
a) connecting links		b) s	seasonal migra	tion
c) adaptive radiation		d) 1	parasitism	
7. Who proposed the Ge	ermplasm theory	79		
a) Darwin		b) A	August Weisma	ann
c) Lamarck		d) A	Alfred Wallace	
8) The age of fossils can	be determined	by		
a) electron microscop	be	b) v	weighing the fo	ssils
c) carbon dating		d) a	analysis of bone	es
9) Fossils are generally	found in			
a) igneous rocks		b) 1	metamorphic ro	ocks
c) volcanic rocks		d) s	sedimentary ro	cks
10) Evolutionary history	y of an organism	is called		
a) ancestry	b) ontogeny	c) pł	nylogeny	d) paleontology
11) The golden age of re	eptiles was			
a) Mesozoic era	b) Cenozoic er	ra c) Pa	aleozoic era	d) Proterozoic era
12) Which period was c	alled "Age of fish	ies"?		
a) Permian	b) Triassic	c) De	evonian	d) Ordovician
13) Modern man belong	gs to which perio	d?		

c) Tobacco

d) Cocaine

b) Alcohol

8. The sporozoite of the malarial parasite is present in ----

A. saliva of infected female Anopheles mosquito.

B. RBC of human suffering from malaria.

a) Opium

C. Spleen of infected	l humans.			
D. Gut of female And	opheles mosquito.			
9. Match the pathogen	s with respective o	diseases caused by them	and select the correct	
match using the code	es given below.			
A. Leishma	ania donavani - i.	Amoebiasis		
B. Wucher	eria bancrofti - ii.	Kala – azar		
C. Trypano	osoma gambiense	- iii. Sleeping sickness		
D. Entamo	oeba histolytica - i	v. Filariasis		
a) A-ii, B-iv, C-iii	, D-I	b) A-ii, B-iv, C-i	, D-iii	
c) A-iii, B-i, C-ii,	D-iv	d) A-i, B-iv, C-ii	i, D-ii	
10. Paratope is an				
a) Antibody binding	; site on variable r	regions		
b) Antibody binding	; site on heavy reg	gions		
c) Antigen binding s	site on variable reș	gions		
d) Antigen binding s	site on heavy regio	ons		
11. Allergy involves				
a) IgE	b) IgG	c) lgA	d) IgM	
12. Spread of cancerou	is cells to distant	sites is termed as		
a) Metastasis	b) Oncogenes	c) Proto-oncogenes	d) Malignant neoplasm	
13. AIDS virus has				
a) Single stranded	RNA	b) Double	e stranded RNA	
c) Single stranded	DNA	d) Double	e stranded DNA	
14. B cells that produc	e and release larg	ge amounts of antibody a	re called	
a) Memory cells	b) Basophils	c) Plasma cells	d) killer cells	
CHAPTER: 8	MICROBES IN	HUMAN WELFARE	07 x 1 = 07	
1. Which of the following	ng microorganism	is used for production o	of citric acid in industries?	
a) Lactobacillus bulg	garis	b) Penicil	lium citrinum	
c) Aspergillus niger	c) Aspergillus niger d) Rhizopus nigricans			
2. Which of the following	ng pair is correctly	y matched for the produc	ct produced by them?	
a) Acetobacter aceti	a) Acetobacter aceti - Antibiotics b) Methanobacterium - Lactic acid			
c) Penicilium notatu	m - Acetic acid	d) Saccharomy	ces cerevisiae - Ethanol	
3. The most common s	ubstrate used in (	distilleries for the produc	ction of ethanol is	

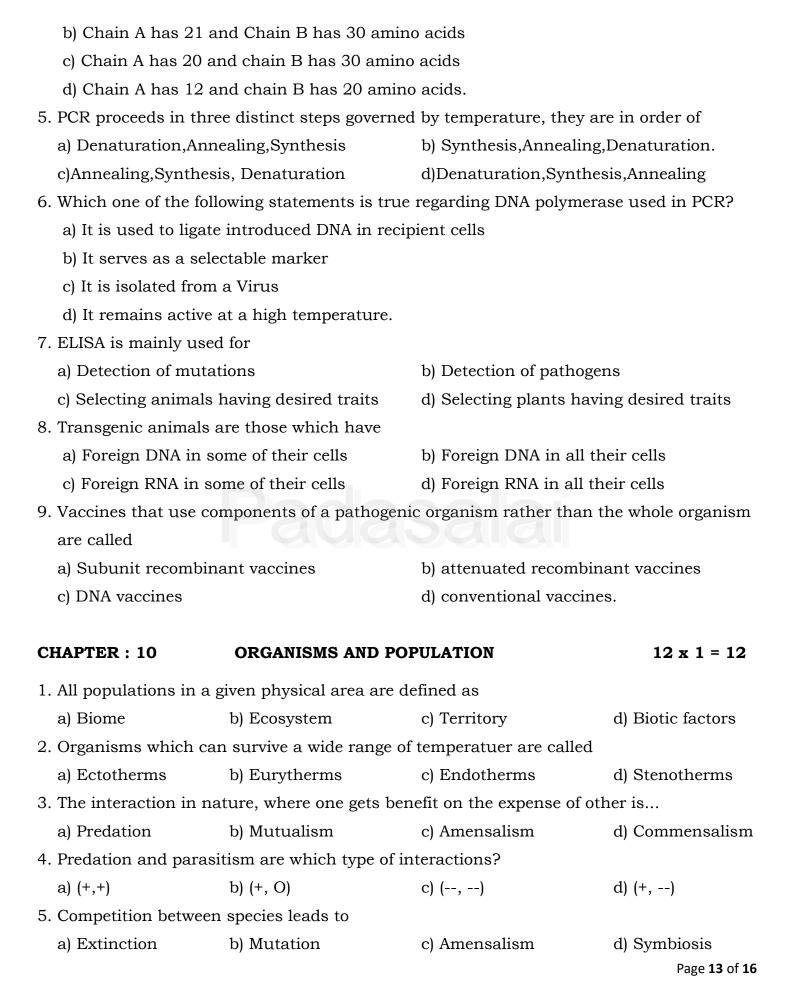
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d) introducing bone marrow cells producing ADA into embryo at an early stage of

4. How many amino acids are arranged in the two chains of Insulin?

development.

a) Chain A has 12 and Chain B has 13



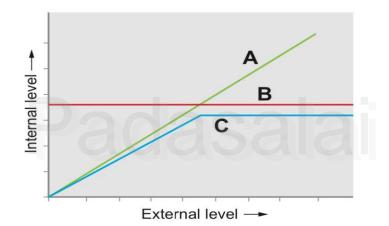
- 6. Which of the following is an r-species
  - a) Human
- b) Insects

- c) Rhinoceros
- d) Whale
- 7. Match the following and choose the correct combination from the options given below.

Col	umn	I

- A. Mutalism
- B. Commensalism
- C. Parasitism
- D.Competition
- E.Predation

- Column II
- 1. Lion and deer
- 2. Round worm and man
- 3. Birds compete with squirrels for nuts
- 4.Sea anemone on hermid crab
- 5.Bernacles attached to whale
- b)A-3, B-1, C-4, D-2, E-5
- d)A-5, B-4, C-2, D-3, E-1
- 8. The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent respectively.



S1 No	A	В	C
а	Conformer	Regulate	Partial regulator
b	Regulator	Partial regulator	Conformer
c	Partial regulator	Regulator	Conformer
d	Regulator	Conformer	Partial regulator

- 9. The relationship between sucker fish and shark is......
  - a) Competition

b) Commensalism

c) Predation

- d) Parasitism.
- 10. Which of the following is correct for r-selected species
  - a) Large number of progeny with small size
  - b) large number of progeny with large size

- c) small number of progeny with small size d) small number of progeny with large size 11. Animals that can move from fresh water to sea called as.... a) Stenothermal b) Eurythermal c) Catadromous d) Anadromous 12. Some organisms are able to maintain homeostasis by physical means a) Conform b) Regulate c) Migrate d) Suspend. Ph: 94 8800 5009 Wish by, Mr. M K Noohu Lebbai M.Sc. (Zoology), B.Ed., DAT., CMLT., RTI (Act).,... PG Assistant Biology Teacher in Ameer Tuition Centre, Kayalpattanam – 628204. **BIODIVERSITY AND ITS CONSERVATION**  $09 \times 1 = 09$ CHAPTER: 11 1. Which of the following regio n has maximum biodiversity b) Tropical forest d) Mangroves a) Taiga c) Temperate rain forest 2. Conservation of biodiversity within their natural habitat is A. Insitu conservation B. Exsitu conservation C. In vivo conservation D. In vitro conservation 3. Which one of the following is not coming under insitu conservation b) Natural parks c) Zoological park A. Sanctuaries d) Biosphere reserve 4. Which of the following is considered a hotspots of biodiversity in India a) Western ghats b) Indo-gangetic plain c) Eastern Himalayas d) A and C 5. The organization which published the red list of species is a) WWF b) IUCN c) ZSI d) UNEP 6. Who introduced the term biodiversity? a) Edward Wilson b) Walter Rosen d) Alice Norman c) Norman Myers 7. Which of the following forests is known as the lungs of the planet earth? a. Tundra forest b. Rain forest of north east India d. Amazon rain forest c. Taiga forest 8. Which one of the following are at high risk extinction due to habitat destruction a) Mammals b) Birds c) Amphibians d) Echinoderms 9. **Assertion:** The Environmental conditions of the tropics are favourable for speciation and diversity of organisms.
  - **Reason:** The climate seasons, temperature, humidity and photoperiod are more or less stable and congenial.

	a)	<b>Both Assertion</b>	and Reason	are true and	Reason ex	plains Asse	ertion correc	tlv
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- b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- c) Assertion is true, but Reason is false.
- d)) Both Assertion and Reason are false.

CHAPTER: 12	ENVIRON	MENTAL ISSUES	09 x 1 = 09						
l. Right to Clean Wate	r is a fundamental	right, under the Indian	Constitution						
a) Article 12	b) Article 21	c) Article 31	d) Article 41						
The 'thickness' of Stratospheric Ozone layer is measured in/on:									
a) Sieverts units	b) Dobson units	c) Melson units	d)Beaufort Scale						
3. As per 2017 statistic	es, the highest per	capita emitter of Carbon	n dioxide in the world is						
a) USA	b) China	c) Qatar	d) Saudi Arabia						
4. The use of microorganism metabolism to remove pollutants such as oil spills in the war									
bodies is known as									
a) Biomagnification	b) Bioremedia	tion c) Biomethana	ation d) Bioreduction						
5. Which among the following always decreases in a Food chain across tropic levels?									
a) Number	b) Accumulated	chemicals c) Energy	d) Force						
6. In the E-waste generated by the Mobile Phones, which among the following metal is mos									
abundant?									
a) Copper	b) Silver	c) Palladium	d) Gold						
7 is/are an ideal disinfectant for waste water.									
a) U-V Rays	b) Chlorination	c) Boiling	d) Ozonisation						
3. SMOG is derived fro	m :								
a) Smoke	b) Fog	c) Both A and B	d) Only A						
9. Excess of fluoride in drinking water causes:									
a) Lung disease	b) Intestinal infe	ction c) Fluorosis	d) None of the above						
Wish by,			Ph : 94 8800 5009						
Mr. M K N	loohu Lebbai M.Sc.	(Zoology), B.Ed., DAT., CMLT.,	RTI (Act).,						
PG Assistant Riol	oov Teacher in Am	neer Tuition Centre Kay	ralnattanam = 628204						

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