March 2024

SU-278 Total No. of Pages : 02

Seat	
No.	

B.Sc. (Part-III) Semester-VI (CBCS) Examination, March 2024. ZOOLOGY (Paper-XIII) **Developmental Biology of Vertebrates**

Sub. Code : 81686

Day and Date: Tuesday, 26-03-2024 Time: 02.30 p.m. to 04.30 p.m.

Total Marks: 40

I

Instructions:		1)	All questions a	re compulsory.		
			2)	Figures to the		
			3)			ams wherever necessary.
Q.1	Seice	ct the	correct	alternative and	rewrite the sent	tence. (8)
	X	The	remark	able process of d	ifferentiation o	f spermatid into a spermatozoon is
						, a specific control
		(A)	Game	togenesis	(B)	Spermatogenesis
		(C)	Ooger	nesis	(D)	Spermiogenesis
	2)	The	chemic	al attraction betwe	en Male and Fe	male gametes is called
		(A)	fertili		(B)	chemotaxis
		(C)	amph	imixis	(D)	Both (B) and (C)
	3)	The	cleavag	ge in which entire	egg is complete	ly divided into distinct blastomeres is
		(A)	radial		(B)	meroblastic
		(C)	holob	lastic	(D)	spiral
	4)	The	•••••	hours cl	nick embryo loo	ks like mirror image of question mark.
			21		(B)	
		(C)	42		(D)	72

P.T.O.

SU-278

(16)

(16)

31 31

- The forms a sac that is filled with fluid in which the embryo floats and provides a shock absorbing environment.
- \propto (A) amnion (B) allantois (C) chorion (D) yolk sac

In chick, skeleton develops from embryonic germ layer.

- - (A) proteins (B) mitochondria (C) centriole (D) nucleus

Q.2 Attempt ANY TWO of the following.

- 1) Define fertilization. Explain the types and process of fertilization.
- 2) Define gastrulation. Describe the process of gastrulation in frog.
- 3) What is foetal membrane? Describe their formation and functions in chick.

2

Q.3 Attempt ANY FOUR of the following.

- 1) Significance of placenta
- 2) Types of cleavages
- 3) What is vitellogenesis? Explain its process in chick.
- 4) Metamorphosis in frog and its hormonal regulation
- 5) Structure of sperm
- 6) Development of primitive streak

Total Marks : 40

Seat	
No.	

B.Sc. (Part - III) (Semester - VI) (CBCS) Examination, March - 2024 ZOOLOGY (Paper-XIV) (DSC E 32)

Immunology

Sub. Code : 81687

Day and Date : Wednesday, 27-03-2024

Time : 02.30 p.m. to 04.30 p.m.

Instruction : 1) All questions are compulsory.

- 2) Figures to the right indicate full marks.
- 3) Draw neat diagrams wherever necessary.

Q.1) Choose the correct alternative and rewrite the sentence. [8]

- i) The branch of biology involve in the study of immune systems in all organisms is called
 - a) Immunology b) Oncology
 - c) Microbiology d) Biotechnology

ii) immunity is obtained during a lifetime.

- a) Innate immunity b) Active immunity
- c) Natural immunity d) Acquired immunity

iii) Programmed cell death is collectively referred as

- a) Apolysis b) Apoptosis
- c) Cell genesis d) Neogenesis

iv) Skin, body hair, cilia, eyelashes, the respiratory tract and the gastrointestinal tract are examples of

a) Physical barrier b) Cellular barriers

Cytokine barriers

c)

d) Physiological barriers

- 1 -

P.T.O.

SU-293

v)		is a primary lympl	ioid organ	· · · · · · · · · · · · · · · · · · ·		
• /	a)	Spleen	b)	Liver		
	c)	Thymus	d)	Tonsil		
vi)		immunoglobulin o	can cross t	he placenta.		
VI)	a) .	IgA	b)	IgM		
	c)	IgG	d)	IgD		
vii)	Ant	igens can be				
	a)	Proteins	b)	Carbohydrate		
	c)	Nucleic acid	d)	All of these		
viii) The	e process during which	the living	cells ingest other cells or particles is		
	call a)	led as Hematopoiesis	b)	Pinocytosis		

c) Phagocytosis d) All of these

Q.2) Attempt any two of the following :

- i) Define adaptive immunity. Differentiate between humoral and cell mediated immunity.
- ii) What is hematopoiesis? Explain organization of hematopoiesis.
- iii) Define hybridoma technology. Explain the process of monoclonal antibody production.

Q.3) Write short notes on : (Any four)

- i) B-Lymphocytes
- ii) Structure of Antibody
- iii) Primary lymphoid organs
- iv) Phagocytosis
- v) Properties of antigens
- vi) Difference between B and T Cell epitopes

[16]

[16]

- 2 -

Seat No.	41	839				
1100		B.	 Sc. (Part - II)	[) (Sem	ester - VI) (Cl	BCS)
		and a second			Iarch - 2024	
					- XV) (DSE E	31)
					ology-II	,
				. Code	: 81088	Total Marks : 40
			Thursday, 28-03	-2024		
Tim	ne : 02	.30 p.1	n. to 04.30 p.m.			
Inst	tructio	n:1)	All questions are			
		2)	Figures to the rig		te full marks. agrams wherever no	ecessarv.
		3)				[8]
Q.:	1) Cho		e correct alternativ			[0]
	i)		bee is developed	from unfe		
		a)	Worker	b)	Queen	
		c)]	Drone	d)	All of these	
	ii)	Sting	apparatus and wax	gland are p	resent only in	
		a) '	Worker and Drone	b)	Queen and Worker	
		c)]	Drone and Queen	d)	Only Queen	25
	iii)	Seme	n is preserved in	for ar	tificial insemination i	n cattle.
	,	a) /	HCl	b)	Alcohol	
		c) l	Hydrogen	d)	Liquid Nitrogen	
	iv)	Rathi	is famous breed of .			
	17)		Cow	b)	Buffalo	
			Goat	d)	Sheep	
				· ·		P.T.O.

- 1 -

- v) A pearl oyster secreets pearl to
 - a) Regenerate injured parts
 - b) protect itself from hard and sharp particle
 - c) harden its mantle cavity
 - d) isolate damage tissues of the body

vi) Which of the following breeds is popular for milk productin in India?

- a) Sirohi b) Jamnapuri
 - c) Alpine d) Boer
- vii) Prawn belongs to class
 - a) Annelida b) Coelenterata
 - c) Echiodermata d) Crustacean

viii) Blue revolution in India is related to

- a) Oil seed production b) Pulse production
- c) Fish production d) Pearl production

Q.2) Attempt any two of the following :

- i) Describe the bee keeping instruments.
- ii) Explain artificial process of pearl formation.
- iii) Describe any two indigenous breeds of goats.

Q.3) Write short notes on any four of the following :

- i) Economic importance of honey
- ii) Importance of dairy farming
- iii) Pearl oyster
- iv) Feeding and development in fishes
- v) Housing structure of goat farming
- vi) Gir indigenous breed

[16]

[16]

Total No. of Pages : 2

Seat												
No.												
			0	B.Sc	. (Part -	III) (Sem	este	r - VI) (CI	BCS)			
		0	2)		nination, N						
	1	V	\mathcal{I}			LOGY (P						
	N		Ŀ	nsect				y (DSE - 1	F - 32)			
	V.				S	ub. Code	: 81	689				
Day	and D	ate :	Satu	rday,	30/03/20	24				lotal M	arks : 40	
	: 2.30	-		-								
Instr	uction	IS :			-	are compu		y. full marks				
			2) 3)					ram where		ssary.		
						1	0					
Q. 1)	Choos	e th	e cor	rect a	alternativ	es from th	e giv	en below a	nd rewi	rite the s	entences [08]	
						Nº.					[00]	
	1. '	The			iterial in t	he body is	ь)	Cementum				
X ^(a)		×	Bon			*	b) d)	Dentine				
		C)	Enar		· CDI-				ıman bei	ngs?		
	2.	Hov			cies of Pla	smodium ca	b)	malaria in hu Three				
	X	a)	Fou				,	Five			V	
		()	Two				a)	rive		2		
	3.	Rat			its d	isease	L)	Malaria		5	/	
		a)	Den	-			b)	Filariasis	. [X		
		Ç)	Pla						is is			
4. The Digestive enzyme present in the mammalian saliva is												
		a)	Ptya	lin			b)	Lipase				
		c)	Gry	psin			d)	Protease				
	5.	Eler	ohanti	asis is	5	1 The						
		a)	Heli	minth	ic disease	9	b)	Bacteria d	isease		6	
		c)	Vira	l dise	ase	15 Contra	d)	Protozoan	disease		÷	
		-)		1							P.T.O	•

- 6. Larval Stage of Hose fly called
 - a) Nymph b) Caterpillar
 - c) Grub d) Maggot
- 7. Which mosquito species are primarily responsible for Dengue fever?
 - a) Anopheles gambiae b) Aedesaegypti
 - c) Culexpipiens d) Culisctannulata
 - Chikungunya isdisease
 - a) Bacterial b) Viral
 - c) Fungal d) Protozoan

Q. 2) Answer the following questions (any two)

- A) Explain in detail mode of infection of mosquito born disease Malaria.
- B) Describe in detail histological structure of mammalian Tooth and tongue of with suitable diagram.
- C) Explain in detail life cycle of Rat flea and Flea-borne disease typhus fever.

Q. 3) Write short notes on (any four)

- a) Control measures of Mosquitoes.
- b) Explain in brief Histology of mammal Pancreas with suitable diagram.
- c) Write in brief on Plague
- d) Mode of infection of Filariasis disease.
- e) Mode of infection of viral Encephalitis.
- f) Flea as an insect vectors.

2

[16]

[16]

~AS