### CHANDANGAD: SUMMER - 2017

### **SUBJECT: PHYSIOLOGY**

# PAPER-I – CELLULAR PHYSIOLOGY, BIOPHYSICS, APPLIED BIOCHEMISTRY BIOSTATISTICS

Day Date	Tuesday			Time: 2.00 P.M. TO 5.00 P.M Max. Marks: 100.		
N.B.:	1) 2) 3) 4) 5)	Attempt any <b>SEVE</b> Draw neat diagrams Your answer will be	o. 2 are COMPUSLROY.  EN questions from Q. No. 3 to Q. s WHEREVER necessary.  e evaluated as a whole.  HT indicate full marks.	No. 10.	0 Min g	
Q.1	Desci	ribe various bioelectri	ical potentials generated in huma	ın body.	(15)	
Q.2	Discu mellit	Discuss homeostasis of blood sugar level. Add a note on metabolism in Diabetes mellitus.		(15)		
Q.3	Expla	Explain the role of various retinal cells in analysis of vision.		(10)		
Q.4	Descr	Describe physical principles in Hemodynamics.			(10)	
Q.5	Descr	Describe various tests of significance in biostatistics.			(10)	
Q.6	Expla	Explain Laplace's law and its applications in various body systems.			(10)	
Q.7	Discus	ss various factors affe	ecting diffusion of gases across re	espiratory membrane.	(10)	
Q.8	Explai	n Starling's forces in	a tissue fluid formation.		(10)	
Q.9	Discus	s various feedback m	nechanisms in the body.		(10)	
Q.10		be the process of com	straction in skeletal muscle with e	emphasis on energy	(10)	

sources needed for it.

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## PAPER-II – ADVANCED SYSTEMIC PHYSIOLOGY AND ENVIRONMENTAL PHYSIOLOGY

Day Date	: Thursday : 25/05/2017 Time: 2.00 P.M. Max. Marks: 100.	Time: 2.00 P.M. TO 5.00 P.M. Max. Marks: 100.				
N.B.:						
* 160	<ol> <li>Q. No. 1 and Q. No. 2 are COMPUSLROY.</li> <li>Attempt any SEVEN questions from Q. No. 3 to Q. No. 10.</li> <li>Draw neat diagrams WHEREVER necessary.</li> </ol>					
	<ul><li>4) Your answer will be evaluated as a whole.</li><li>5) Figures to the RIGHT indicate full marks.</li></ul>					
Q.1	Discuss physiology of pain.	(15)				
Q.2	Describe pathophysiology of hyperthyroidism and discuss how you vinvestigate a case of hyperthyroidism.	vill (15)				
Q.3	Define and classify shock. Describe various compensatory mechanisms a physiological basis of treatment of hemorrhagic shock.	and (10)				
Q.4	Discuss mechanisms of concentration of urine.	(10)				
Q.5	Discuss effects of radiation during space travel.	(10)				
Q.6	Explain the role of vestibular apparatus in maintenance of equilibrium.	(10)				
Q.7	Discuss nervous regulation of respiration.	(10)				
Q.8	Discuss the role of gastrointestinal hormones in regulation of motility a secretions of gastrointestinal tract.	nd (10)				

Describe the role of synaptic plasticity in memory.

Q.10 Describe the process of ovulation and discuss various tests to detect it.

**Q.9** 

(10)

(10)

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### PAPER-III – HISTORY, COMPARATIVE PHYSIOLOGY AND APPLIED PHYSIOLOGY

Day Date	Saturday Time: 2.00 P.M. TO Max. Marks: 100.	Time: 2.00 P.M. TO 5.00 P.M. Max. Marks: 100.	
N.B.:	<ol> <li>Q. No. 1 and Q. No. 2 are COMPUSLROY.</li> <li>Attempt any SEVEN questions from Q. No. 3 to Q. No. 10.</li> <li>Draw neat diagrams WHEREVER necessary.</li> <li>Your answer will be evaluated as a whole.</li> <li>Figures to the RIGHT indicate full marks.</li> </ol>		
Q.1	Write in detail pathophysiology of cardiac failure.	(15)	
Q.2	Discuss evolution of Respiratory system.	(15)	
Q.3	Explain neurochemical mechanisms promoting sleep and wakefulness.	(10)	
Q.4	State contributions of (i) Camilio Golgi (ii) Dr. B. K. Anand in the field of physiology.		
Q.5	Describe various methods to study Central Nervous System.	(10)	
Q.6	Explain non-respiratory functions of lungs.	(10)	
Q.7	Discuss pathophysiology of Parkinson's disease with a note on physiological basis of its treatment.	(10)	
Q.8	Discuss various factors preventing collapse of lungs.	(10)	
Q.9	Describe liver function tests.	(10)	
O 10		(10)	

(10)

Q.10 Discuss various contraceptive methods.

### CHANDANGAD : SUMMER – 2017 SUBJECT : PHYSIOLOGY PAPER-IV – RECENT ADVANCES IN PHYSIOLOGY



Day Date	: Monday Time : 2.00 P.M. Max. Marks: 100			
N.B.:	<ol> <li>Q. No. 1 and Q. No. 2 are COMPUSLROY.</li> <li>Attempt any SEVEN questions from Q. No. 3 to Q.</li> <li>Draw neat diagrams WHEREVER necessary.</li> <li>Your answer will be evaluated as a whole.</li> <li>Figures to the RIGHT indicate full marks.</li> </ol>	No. 10.		
Q.1	Discuss in detail mechanisms of action of hormones.		(15)	
Q.2	Describe physiology of immune response.		(15)	
Q.3	Describe the role of various association areas in cerebral co	ortex.	(10)	
Q.4	Explain the role of stem cells in modern therapy.		(10)	
Q.5	Discuss the role of radioisotopes in medicine.		(10)	
Q.6	Describe conditioned reflexes in detail.		(10)	
Q.7	Discuss pathophysiology of obesity.		(10)	
Q.8	Explain the role of Organ of Corti in mechanism of hearing		(10)	
Q.9	Discuss regulation of blood volume.		(10)	
Q.10	Describe various cardio-respiratory changes occurring during	ng moderate exercise.	(10)	

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