

<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Theory Examination, July 2020**

**Course: Human Anatomy and Physiology-II**

**Semester: II**

**Program: B.Pharma**

**Course Code: BP201T**

**Instructions: Read the Question Paper Carefully. All Sections are Compulsory**

**Time 03 hrs.**

**Max. Marks: 75**

S. No.	CO	Section A Multiple Choice Questions (one marks each)	Marks
1	CO1	The human nervous system is capable of a wide range of functions. What is the basic unit of the nervous system? a. Glial cells b. Meninges c. Neuron d. Cerebrospinal fluid	1
2	CO2	The epithelial cells of the intestine involved in food absorption have on their surface a. Pinocytic vesicles b. Zymogen granules c. Phagocytic vesicles d. Microvilli	1
3	CO3	A flap of tissues present at the opening to the trachea called as the _____. a. Glottis b. Trachea c. Epiglottis d. Larynx	1
4	CO4	..... are chemical messengers secreted by ductless gland. a. Plasma b. Lymph c. Inflammatory mediators d. Hormones	1
5	CO5	An organ or structure that is not a component of the urinary system is the a. Urethra b. Urinary bladder c. Ureter d. Adrenal gland e. Kidney	1

6	CO1	Which of the following cells supports, nourishes, and protect the neurons? a. Nissl bodies b. Perikaryon c. Ganglia d. Glial cells	1
7	CO2	Maximum amount of fat digestion occurs in a. Rectum b. Stomach c. Large intestine d. Small intestine	1
8	CO3	Trachea divided into two smaller tubes called Bronchi Micro trachea Eustachian tube a. None of the above	1
9	CO4	Which of the following statement is incorrect about the functions of hormones? Growth and development Regulation of internal environment Regulation of body temperature Reproduction and sexual differentiation	1
10	CO5	The number of days required for the completion of one ovarian cycle ..... Twenty Fourteen Five a. Twenty eight	1
11	CO1	Thalamus and hypothalamus regions are also known as ..... a. Prosencephalon b. Myelencephalon c. Diencephalon d. None	1
12	CO2	In which organ of the digestive system, most of the digestive processes does takes place? a. Stomach b. Small intestine c. Large intestine d. All of the above	1
13	CO3	During expiration the diaphragm becomes Dome shaped Flattened Normal Oblique	1
14	CO4	Which one of the following hormones binds to the pituitary and stimulates the release of luteinizing hormone (LH) and follicle stimulating hormone (FSH)? a. Adrenocorticotropic hormone b. Thyroid stimulating hormone c. Corticotropin releasing hormone	1

		d. Gonadotropin releasing hormone	
15	CO5	The normal human chromosome diploid number is: a. 23 b. 24 c. 46 d. 48	
16	CO1	The two hemisphere of cerebrum are connected by a. Corpus callosum b. Cerebral cortex c. Motor neuron d. Sensory neuron	1
17	CO2	The rounded superior part of the stomach located inferior to the diaphragm, above and to the left of the cardia, is called a. Fundus b. Cardia c. Rugae d. Pylorus	1
18	CO3	Exchange of oxygen and carbon dioxide between alveolar air and blood is governed by a. Active transport b. Gravity c. Diffusion d. Blood pressure	1
19	CO4	All of the following are hormones of the anterior pituitary except: a. Growth hormone (GH) b. Follicle stimulating hormone (FSH) c. Thyroid stimulating hormone (TSH) d. Antidiuretic hormone (ADH)	1
20	CO5	In the absence of acrosome the sperm _____ a. Cannot get energy b. Cannot penetrate the egg c. Cannot get food d. Die	1
			<b>20</b>

**SECTION B**

**Attempt all questions**

<b>Q2</b>		<b>All COs should be covered</b>	<b>20</b>
		Multiple Answer Type Questions (Tick all that apply)	
	CO1	Which of the following best describe the structure of myelinated neuron? (tick all that apply) a. It consists of series of schwann cells along the length of the neuron. b. Nodes of Ranvier assist in rapid transmission of nerve impulse. c. One schwann cell present surrounded by the myelin sheath. d. Speed of transmission of nerve impulse is significantly lower.	1

	CO2	The walls of alimentary canal is formed by following layers (tick all that apply) a. Outer layer adventitia or serosa b. Muscularis Externa c. Mucosa d. Submucosa	1
	CO3	Carbon die oxide is one of the waste products of metabolism. It is excreted by the lungs and is transported by which of the following mechanism (tick all that apply). a. As bicarbonate ions in the plasma (70%) b. Combined with erythrocytes as carbaminohemoglobin (23%) c. Combined with leukocytes (10%) d. Some is dissolved in the plasma (10%)	1
	CO4	Parathormone and calcitonin from the thyroid gland act in a complementary manner to maintain blood calcium levels within the normal range. This calcium is required for; (tick all that apply). a. Normal action of many enzymes b. Blood clotting c. Hyperpolarization d. Depolarization	1
	CO5	The renal system does not play a direct role in regulating which of the following? (tick all that apply). a. Blood solute concentrations b. Blood infection c. Blood temperature d. Blood pressure	1
	CO1	The functions of cerebellum are (tick all that apply). a. Balance and Posture b. Fine movement coordination c. Sensory perceptions d. Higher order functions	1
	CO2	The effects of sympathetic stimulation on the digestive system are: (tick all that apply) a. Increased muscular activity, especially peristalsis, because there is increased stimulation of the myenteric plexus. b. Decrease glandular secretion, as there is less stimulation of the submucosal plexus. c. Decrease muscular activity, especially peristalsis, because there is reduced stimulation of the myenteric plexus d. Increase glandular secretion as there is increased stimulation of the submucosal plexus.	1
	CO3	The respiratory centre which control the respiratory pattern, i.e. the rate and depth of breathing and respiratory rhythmicity are: (tick all that apply) a. Nerves in the medulla b. Nerves in the pons c. Nerves in the cerebellum d. Nerves in the cerebrum	1
	CO4	There are three main types of cells in the pancreas they are: (tick all that apply) a. Alpha cells secreting insulin	1

		<ul style="list-style-type: none"> <li>b. Beta cells secreting insulin</li> <li>c. Delta cells secreting somatostatin</li> <li>d. Delta cells secreting glucagon</li> <li>e. Alpha cells secreting glucagon</li> </ul>	
	CO5	<p>The testes are located in a skin-covered, highly pigmented, muscular sack called the scrotum, the muscles which are present in scrotum are: (tick all that apply)</p> <ul style="list-style-type: none"> <li>a. Dartus muscles</li> <li>b. Cremaster muscles</li> <li>c. Tunica vaginalis</li> <li>d. Tunica albuginea</li> </ul>	1
		Fill in the blanks (one marks each)	
	CO1	.....controls the output of the hormones from both lobes of the pituitary gland.	1
	CO2	The optimum pH for the action of salivary amylase is .....	1
	CO3	The ..... is a dome-shaped muscular structure separating the thoracic and abdominal cavities.	1
	CO4	Steroid hormone which is involved in maintaining water and electrolyte balance is .....	1
	CO5	..... secreted by the corpus luteum stimulates the production of decidual cells of the endometrium that nourish the blastocyst before placentation.	1
	CO1	The cerebellum and pons are located in the upper region of the hindbrain known as the .....	1
	CO2	Trypsinogen and chymotrypsinogen are inactive enzyme precursors activated by ....., an enzyme in the microvilli, which converts them into the active proteolytic enzymes trypsin and chymotrypsin.	1
	CO3	.....is defined as the maximum volume of air which can be moved into and out of the lungs:	1
	CO4	.....secreted by pancreas and acts on cell membranes and stimulates the uptake and use of glucose by muscle and connective tissue cells	1
	CO5	During transcription, the.....enzyme binds to the promoter sequence and moves along the template strand to the coding region.	1
			<b>20</b>

**SECTION C**

**Attempt All Questions**

<b>Q3</b>		<b>All COs should be covered each question carry five marks</b>	<b>35</b>
	CO1	<p>Write two functions of cerebral cortex? Name the ventricles present in the brain and write one function each.</p> <p><b>Or</b></p> <p>Define Neuroglia. Write the functions of different types of neuroglia present in the brain.</p>	2+3
	CO2	What are the functions of ATP (any two)? How will you measure BMR in adult and an infant?	2+3

		<b>Or</b> Name the accessory organs of digestive tract. Discuss in brief the role of pepsin in protein digestion	
.	CO3	Define Respiration. Write the name of the organs associated with respiratory tract.	2+3
	CO4	Enlist the hormones secreted from anterior pituitary gland. What is the functions of pineal gland?	2+3
	CO5	Define menstrual cycle in females? Discuss the events which occur during menstrual cycle phase.	2+3
	CO3	Define Total Lung Capacity. Write the role of carbonic anhydrase enzyme in transport of CO <sub>2</sub> .	2+3
	CO4	Name the sex hormones produced in both male and female. What are the functions of male sex hormones?	2+3
			<b>35</b>
		<b>Total</b>	<b>75</b>