

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT)**

Term-End Examination

June, 2006

MFN-001 : APPLIED PHYSIOLOGY

Time : 3 hours

Maximum Marks : 100

Note : *Answer **five** questions in all. Question no. 1 is **compulsory**. All questions carry equal marks.*

1. (a) Explain the following in 2 – 3 sentences only : 10
- (i) Haemopoiesis
 - (ii) Lysosome
 - (iii) Phagocytosis
 - (iv) Erythropoiesis
 - (v) Antigen
- (b) Match the items in Column A with the items in Column B. 10

<u>Column A</u>	<u>Column B</u>
(i) Nephron	(a) hormones secreted by anterior pituitary
(ii) Neuron	(b) examples of gastrointestinal hormone
(iii) Motor cortex	(c) hormone secreted by adrenal cortex
(iv) Secretin, CCK	(d) functional unit of kidney
(v) Luteinizing hormone, prolactin	(e) muscular tube which carries spermatozoa
(vi) Oxytocin, antidiuretic hormone	(f) hormone secreted by the thymus gland
(vii) Insulin, glucagon	(g) hormone secreted by posterior pituitary
(viii) Aldosterone, cortisol, cortisone	(h) retinal nerve cell
(ix) Melatonin	(i) cerebral functional area
(x) Vas Deferens	(j) hormone secreted by pineal gland
	(k) hormone secreted by the pancreas
	(l) basic unit of the nervous system

2. (a) "Physiology is an interlink between nutrition and healthy human body." Elaborate on the statement, highlighting the relationship between nutrition and physiology.

- (b) Differentiate between eukaryotic cells and prokaryotic cells, illustrating their structure and functions. 12
3. (a) Briefly describe the role of macrophages in the immune system. 10
- (b) What do you understand by the term cardiac cycle? Explain the phases and the significance of cardiac cycle. 10
4. (a) What are the functions performed by the following organs of the respiratory system : 6
- (i) Larynx
- (ii) Lungs
- (b) Briefly describe the process involved in the interchange of gases within the lungs. 8
- (c) What is artificial respiration? Describe in brief the techniques of artificial respiration. 6
5. (a) Describe the structure and functions of the following organs : 6+6
- (i) Liver
- (ii) Pancreas
- (b) "The small intestine secretes intestinal juices." Elaborate the functions of these intestinal juices. 8
6. (a) What is the functional unit of the kidney? Illustrate the functional unit, describing the parts and their functions. 10

- (b) Briefly describe the two processes involved in the transportation of substances across the cell membrane. 10
7. (a) Describe the nerve cell morphology and explain how neurons communicate with each other. 10
- (b) Name the two organs which form the central nervous system. 2
- (c) Describe the structure and functions of cerebrum with the help of suitable diagram. 8
8. Write short notes on any **four** of the following : 5+5+5+5
- (i) Female reproductive organs and their functions
 - (ii) Structure and functions of the internal ear
 - (iii) Organs involved with taste perception
 - (iv) Innate Immunity
 - (v) Tissue and their functions