

**M.Sc. 3rd Semester Examination, 2013**

**HUMAN PHYSIOLOGY**

PAPER – PHY- 303.

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

**UNIT –29**

**Answer any two questions :**

1. (a) "Thin-walled capillaries can withstand high internal pressures without bursting" – justify the statement.
- (b) Critically discuss on the vasoactive role of the capillary endothelium. 5 + 5

( Turn Over )

( 2 )

2. (a) Mention the dual control system of peripheral circulation.
- (b) How does metabolic regulation exert its effect on peripheral blood flow ?
- (c) Citing an suitable evidence discuss the phenomenon of reactive hyperemia. 2 + 4 + 4
3. (a) Discuss the role of lung as a secondary lymphoid tissue.
- (b) Write on the major pathophysiological changes that occur in chronic pulmonary emphysema.
- (c) What is 'Bronchus-associated Lymphoid tissue (BALT)' ? 4 + 4 + 2
4. (a) What is surfactant ?
- (b) Describe the different stages of lung development before birth.
- (c) Write on the mechanism of adjustment of ventilation in response to rise in  $PCO_2$  in blood. 2 + 4 + 4

( 3 )

UNIT -30

Answer any **two** questions :

1. (a) How primary hemostasis process is maintained in the body?  
(b) Mention name and functions of two thrombolytic agents.  
(c) Explain the genetic causes of thrombotic thrombocytopenic purpura (TTP). 5 + 2 + 3
2. (a) Mention different isoforms of glutathione peroxidase with their site of expression.  
(b) Citing one example describe how the redox system modify the regulation of interacting proteins. 3 + (3 + 4)
3. (a) Discuss the mechanism of development and management of high altitude pulmonary edema (HAPE).  
(b) What are freezing and non-freezing cold injury?

( 4 )

(c) Describe the effects of  $(-G_z)$  accelerative forces on human physiological systems.

4 + 3 + 3

4. (a) Intestinal smooth muscles functions as syncytium" – Explain.

(b) Write on the extrinsic neural control of GI tract.

(c) Mention the water permeability characteristics of different segments of renal tubule. Where and how hypotonic filtrate is formed ?

2 + 3 + (2 + 3)

---