SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Biomedical Science)
Semester: II
Syllabus with Effect from: June - 2014

Paper Code: PT02EBMC02	**Total Credit: 4**
Title of Paper: System Physiology	

Unit	Description in Detail	Weightage (%)
I	Photosynthesis, Respiration and photorespiration: Light harvesting complexes; mechanisms of electron transport; photoprotective mechanisms; CO2 fixation-C3, C4 and CAM pathways. Citric acid cycle; plant mitochondrial electron transport and ATP synthesis; alternate oxidase; photorespiratory pathway.	25%
II	Photosynthesis, Respiration and photorespiration: Light harvesting complexes; mechanisms of electron transport; photoprotective mechanisms; CO2 fixation-C3, C4 and CAM pathways. Citric acid cycle; plant mitochondrial electron transport and ATP synthesis; alternate oxidase; photorespiratory pathway.	25%
III	Circulatory and Cardiovascular System: Blood corpuscles, haemopoiesis and formed elements, plasma function, blood volume, blood volume regulation, blood groups, haemoglobin, immunity, haemostasis; Comparative anatomy of heart structure, myogenic heart, specialized tissue, ECG - its principle and significance, cardiac cycle, heart as a pump, blood pressure, neural and chemical regulation of all above.	25%
IV	Respiratory system and sensory organs: Respiratory system: Comparison of respiration in different species, anatomical considerations, transport of gases, exchange of gases, waste elimination, neural and chemical regulation of respiration; Sense organs: Vision, hearing and tactile response.	25%

Basic Text & Reference Books:-

- Taiz L., Zeiger E., Plant Physiology- Sinauer Associates Inc., U.S.
- Hall J. E., Guyton & Hall Text Book of Medical Physiology, Publisher: Saunders; 12th edition
- Barrett K E., Barman S. M., Boitano S., Brooks H. L., Ganong's Review of Medical Physiology, McGraw-Hill Medical; 24th edition
- Tortora G. J., Derrickson B. H., Principles of Anatomy and Physiology, Wiley; 13th edition