Internal Assessment Test II– JULY 2024

Scheme

Sub:	Biology for Engineers					Sub Code:	BBOC407	Branch:	CSE
Date:	08/07/2024	Duration:	90 mins	Max Marks:	50	Sem / Sec:	IV A,B,C		

1.	Write a short note on I) Chronic obstructive pulmonary disease ii) Heart Lung machine	10M
Scheme	Chronic Obstructive Pulmonary Disease (COPD) is a group of progressive lung diseases that cause breathing difficulties. A heart-lung machine, also known as a cardiopulmonary bypass machine, is a device used in cardiovascular surgery to temporarily take over the functions of the heart and lungs.	5M 5M

2	Compare central nervous system and peripheral nervous system by identifying their structural differences. Explain how signal transmission occurs from brain to peripheral nerves.	10M
Scheme	Schematic representation of CNS and PNS Comparing the functions of CNS and PNS Signal transmission with diagram	1M 4M 5M
3	Describe electroencephalogram and various applications of electroencephalogram.	10M
Scheme	EEG stands for electroencephalography, which is a non-invasive method for measuring the electrical activity of the brain. EEG representation EEG applications	1M 2M 7M

4	How can you analyse and compare the architectural differences between a camera and anatomy of human eye, focusing on the structural characteristics of rod and cone cells, and explain how these differences contribute to visual perception and colour vision? Additionally, discuss the common refractive errors of the eye and various optical corrections available to address them, considering their effectiveness and limitations.	10M
Scheme	Compare main components of eye with camera Compare architecture of rod and cone cells Explain refractive errors Optical corrections	2M 2M 3M 3M
5	Define are stents. Give an account on the stent design and materials used for the manufacturer of stents.	10M
Scheme	Stents are small, metal mesh devices that are used to treat blockages in blood vessels. They are typically used in procedures such as angioplasty, where a balloon catheter is used to open a blocked blood vessel and a stent is placed to keep it open. design features of stents Shape Material Coating Expansion mechanism	2M
6.	Explain the construction and working principles of pacemakers, highlighting the materials used in their construction and the role they play in regulating heart rhythms. Discuss the basic design and components of defibrillators, including the materials employed in their construction.	10M
Scheme	Meaning of pacemaker Components used in design Different ways of working of pacemaker materials used in construction defibrillator meaning + basic design+ materials used in construction and design	1M 1M 2M 2M 4M