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Question Paper Code: 59422

B.E. / B.Tech. DEGREE EXAMINATION, SEP 2019

Elective

Electronics and Communication Engineering

15UEC922- MEDICAL ELECTRONICS

(Regulation 2015)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 5 Marks)

(Answer any six of the following questions)

1. EEG is usually abnormal in all of the following, except: CO1- R
(a) Subacute sclerosing panencephalitis (b) Locked — in state
(c) Creutzfeldt — Jakob disease (d) Hepatic encephalopathy
2. The extra cellular fluid contains large quantities of _____ and CO1- R
small amount of _____
(a) Calcium and potassium (b) Sodium and potassium
(c) Sodium and calcium (d) Potassium and sodium
3. The range of systolic blood pressure for a normal adult is _____ CO2- R
(a) 95 to 145 mm Hg (b) 75 to 135 mm Hg
(c) 55 to 125 mm Hg (d) 65 to 125 mm Hg
4. Electrophoresis is commonly used in lab to separate charged molecules CO2- R
like DNA, according to their____
(a) Size (b) Shape (c) Both (d) None
5. Genes that play a role in uncontrolled cell growth are known as CO3- R
(a) Tumor genes. (b) Growth genes (c) Oncogenes (d) Protogenes
6. The pulse repetition rate in pacemaker is usually _____, but many CO3- R
pacemakers are adjustable in the range of _____
(a) 100 Pulses/min, 50 - 150 pulses/min (b) 80 Pulses/min, 50 - 150 pulses/min
(c) 90 Pulses/min, 50 - 150 pulses/min (d) 70 Pulses/min, 50 - 150 pulses/min

7. What does "MRI" stand for? CO4- R
 (a) Magneto-Ray Idometry (b) Medical Radiometry Instrument
 (c) Magnetic Resonance Imaging (d) Maximal Radiology Imaging
8. Radiography is an imaging technique uses Ionizing radiations like CO4- R
 _____ and Non Ionizing radiations to viewing the internal organs.
 (a) X Rays (b) Gamma rays (c) Both (d) None
9. The blood plasma is composed by CO5- R
 (a) Blood cells (b) Platelets
 (c) Solution of water and salts, proteins etc..., (d) Both a & b
10. PET system detects pair of _____ CO5- R
 (a) Alpha Rays (b) Gamma Rays (c) Beta Rays (d) All the Above

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Discuss the different lead configuration and measuring equipment used in ECG CO1- U (8)
12. Briefly explain the working of Blood cell counter. CO2-U (8)
13. Explain the different modes of cardiac pacemakers. CO3-U (8)
14. Explain in detail about the computer tomography CO4- U (8)
15. Discuss about Single Photon Emission Computer Tomography CO5- U (8)