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Question Paper Code: 59B15

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Biomedical Engineering

15UBM915– REHABILITATION ENGINEERING

(Regulation 2015)

Duration: One hours

Maximum: 30Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Oldest design methods applied to assistive technology is _____ CO1- R
(a) Taxonomy (b) Heuristics (c) Acoustics (d) None of the above
2. Engineers are pursuing the assistive technology practitioner credential through CO1- R
(a) REPNA (b) RESAA (c) RESNA (d) RSNA
3. An _____ is a product or device that supports a body part or joint. CO2-R
(a) Orthosis (b) Assistive devices (c) Prosthetic (d) Wheelchairs
4. Prosthetic metal devices should be made by _____. CO2- R
(a) Bronze (b) Titanium (c) Ion (d) Both (a) & (b)
5. _____ converts electrical energy to rotational motion. CO3- R
(a) Battery (b) Controller (c) Joystick (d) Motor
6. Wheel chair performance, strength & durability comes under _____ CO3- R
(a) Selection (b) Design (c) Product testing (d) None of the above
7. _____ are devices that link machines to the nervous system for the CO4- R
purpose of restoring lost function.
(a) Robotics prosthetics (b) Neural prosthetics
(c) Tissues prosthetics (d) Needle prosthetics
8. Injuries to the _____ interfere with electrical signals between the brain and CO4- R
the muscles
(a) Brain (b) Spinal cord (c) Head (d) All of the above

9. _____ is a game where the object is to last as long as possible under some sort of stress. CO5- U
(a) Active games (b) Endurance games
(c) Video games (d) None of the above

10. Strength training is the type of _____ CO5- U
(a) Physical exercises (b) Games (c) Activity (d) Attainment

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Predict the design consideration in rehabilitation Engineering. CO1- U (8)
12. Comparative analysis of upper and lower limb prosthesis. CO2- Ana (8)
13. Briefly explain about power wheelchair. CO3- U (8)
14. Investigate BCI and its role in rehabilitation with examples. CO4- Ana (8)
15. Analyze in detail about mobilization exercises and endurance exercises. CO5- Ana (8)