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Question Paper Code: 1216035

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024

Sixth Semester

Biomedical Engineering

U20BM608 – REHABILITATION ENGINEERING

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. Give a relationship between impairment, disability and handicap.
2. How the Speech pathologist helps the patient in area of Communication?
3. What are the Principles of Rehabilitation Engineering?
4. List out the different categories of Assistive Devices
5. Define relaxation exercise and its types.
6. List the advantages of Frenkel exercises?
7. What is aphasia?
8. How can virtual reality technology help in patient's recovery?
9. Mention the principle behind FNS.
10. Give some considerations for selecting the material for lower limb orthoses.

PART – B

(5 x 16 = 80 Marks)

11. (a) Explain the levels of Prevention in detail. (16)

(OR)

(b) Classify the Rehabilitation team? Explain the role of members in detail. (16)

12. (a) Explain the Principles of Assistive Technology Assessment. (16)

(OR)

(b) Discuss the following. (8+8)

i) Key Ergonomic Principles

ii) Principles of Rehabilitation Engineering

13. (a) Explain with neat diagram the various phases involved in gait analysis. (16)

(OR)

(b) Evaluate about the various mobilization and endurance exercise used to restore the function of a body part. (16)

14. (a) Explain the methods and devices used for visual augmentation? (16)

(OR)

(b) i) Explain how Does Haptic Feedback Impact Hand Motor Recovery? (8+8)

ii) Virtual reality improve rehabilitation services?

15. (a) What is meant by Orthotics Calipers? Discuss the Foot Orthotics (FO), and Ankle foot Orthotics (AFO). (16)

(OR)

(b) Elaborate about the devices used to restore the function of hand and arm. (16)