

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Branch: Institutional Elective

Course Code: 19ET7OE2SH

Course: Sustainable Health with Technological Advances

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may suitably assumed.

UNIT - I

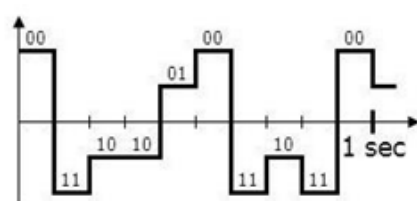
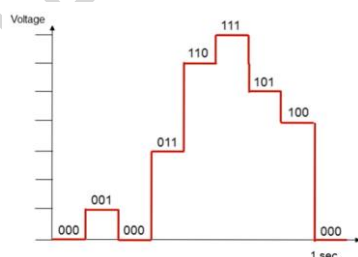
- 1 a) Define Telemedicine. Show subsets of telemedicine connecting patients to medical professionals. **06**
- b) With a neat diagram, explain the examples of digital health applications supported by Telemedicine **08**
- c) Analyse the data packet that contain health related information of a patient. **06**

UNIT - II

- 2 a) Compare wired versus wireless networks and services. **04**
- b) Illustrate with a neat diagram, the Network infrastructure linking the hospital to many entities and the role of Broadband Wireless Access. **10**
- c) Discuss the sensors that support M- health and the challenges possessed by M- health **06**

OR

- 3 a) Define bit and baud rate. Calculate the bit and baud rate for the following cases. **06**



- b) Explain Bluetooth technology and its use in Healthcare with an example. **06**
- c) Illustrate the application of RFID in Telemedicine with an example. **08**

UNIT - III

- 4 a) With a neat diagram, explain the infrastructure of a basic BAN for monitoring a cardiac patient under supervised recovery. **10**
- b) Summarize the steps in performing a robotic surgery in perspective of Information and Communication Technology System. Mention its advantages. **10**

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

OR

- 5 a) Discuss the sensors used in BAN, emphasizing the concerns and standards used. **08**
- b) How computer assists in therapy of cancer chemotherapy protocol adviser, the case study of a radiology information system? **08**
- c) Give some application examples of smart wearable integration devices. **04**

UNIT - IV

- 6 a) A person is suffering from fever. Suggest a reliable method for remote body temperature monitoring. **08**
- b) What is blood pressure (BP)? Give values for normal systolic and diastolic BP and hence appraise application of wearable BP measurement. **06**
- c) Discuss pulse oximeter to measure oxygen saturation with a neat diagram **06**

UNIT - V

- 7 a) Discuss generalized Telecare network with a neat diagram. **10**
- b) Elaborate on present and future scope for telecare for senior citizens and specialty that focuses on health care of elderly people. **10**
