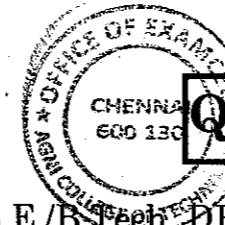




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Question Paper Code : 90461

B.E./B.Tech DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019
Fifth Semester
OMD 553 – TELEHEALTH TECHNOLOGY
(Common to Food Technology/Information Technology/Pharmaceutical Technology/Computer Science and Engineering/Computer and Communication Engineering/Electronics and Communication Engineering/Electronics and Telecommunication Engineering/Bio Technology)
(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Mention the safety and regulatory issues in Telemedicine.
2. Write the merits of telemedicine.
3. Define POTS.
4. Differentiate between the LAN and WAN Technology.
5. Define cryptography.
6. What is meant by TCP/IP protocol ?
7. Define Tele pathology.
8. Write the advantage of hospital information system.
9. Define Teleoncology.
10. Mention the role of telemedicine in health education and self care.

PART – B

(5×13=65 Marks)

11. a) Explain the functional block diagram of Telemedicine.

(OR)

- b) Describe in detail about the ethical and legal aspects of Telemedicine.

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12. a) Explain in detail about the principle of multimedia used in text and audio data.

(OR)

b) Explain in detail about the mobile communication in telemedicine.

13. a) Explain in detail about the various phases of encryption in Telemedicine standards.

(OR)

b) Describe in detail about the security and confidentiality of medical records and access control in telemedicine.

14. a) Describe in detail about the hospital information system in telemedicine.

(OR)

b) Explain in detail about the image acquisition and display system of teleradiology.

15. a) Explain the application of telemedicine in telecardiology and teleoncology.

(OR)

b) Describe in detail about the application of telemedicine in e-health services, security and interoperability.

PART - C

(1×15=15 Marks)

16. a) Describe the application of telemedicine in Neuroscience.

(OR)

b) Case Study :

A patient named Mr. X was undergoing treatment in Calcutta under Dr. Y at the consultation center in Calcutta. In the course of the treatment a specialist's opinion was required and Dr. Y referred the case to Dr. Z at the specialty center in Hyderabad. Calcutta is a full-fledged telemedicine consultation center and is connected to Wah Hyderabad Hospital. The patient's records were sent in advance and the appointment was fixed according to Dr. Z schedule. Before the consultation begins both the centers have to enter each other's IP (internet protocol) address for a web camera meeting in the absence of a polycam. The meeting took place for ten minutes in the course of which Dr. Z advised the patient on his future treatment plan.

The billing for a telemedicine consultation is done at a flat rate of INR500 in case one specialist is involved and INR750 in case of two specialists. In case of overseas referral cases ATEL charges \$ 50 if one specialist is consulted and \$ 75 in case of two. This web consultation has saved Mr. X quite a few expenses he would have incurred if he had to travel to Hyderabad to consult Dr. Z. Web consultation has its own problems like connectivity delay, image and voice distortion.

Dr. Z Consultant Neurosurgeon, Wah Hospitals-Hyderabad feels that Information Technology will radically change the working of medical science. Telemedicine has revolutionized medical consultation by cutting down the distance between the rural patient and urban specialist.

- i) Mention the benefits of Telemedicine. (4)
- ii) Discuss the technological issues faced during communication through Telemedicine consultation. (6)
- iii) Specify the critical success factors for sustaining telemedicine network. (5)