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Question Paper Code: 59B02

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

Elective

Biomedical Engineering

15UBM902- CLINICAL ENGINEERING

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- Clinical engineers apply their talents in all areas of health care including the following: CO1- R
 - Medical device industry
 - Government regulatory agencies
 - Standards organizations
 - all the above
- The passage of the Food, Drug and Cosmetic Act in _____. CO1- R
 - 1937
 - 1938
 - 1939
 - 1940
- To acquisition of medical technology is accomplished primarily for the following _____. CO2- R
 - diagnostic
 - therapeutic
 - rehabilitation
 - all the above
- A technology strategic plan is derived from, and supports, well defined _____. CO2- R
 - Clinical objectives
 - Clinical issues
 - Clinical conditions
 - Clinical processes
- The EHTP is a methodology and a tool aimed at _____ health care technology planning and management. CO3- R
 - Clinical processing
 - Clinical & human
 - Strengthening and optimizing
 - Weakening and processing
- The goal of health care technology management (HTM) is to optimize _____. CO3- R
 - Computers
 - acquisition and utilization
 - WiFi
 - transportation

7. Specific equipment data are needed to uniquely define each equipment item included in the equipment _____ program. CO4- R
 (a) Management (b) Government (c) Private (d) Industry
8. When a quality improvement opportunity is identified, the indicator often will evolve. CO4- R
 (a) Identify Quality Improvement Opportunity (b) Determine Threshold
 (c) Evaluate Indicator Data (d) Modify Indicator
9. Many hospitals are struggling to stay _____. CO5- R
 (a) Afloat (b) Un float (c) Floating (d) Not floating
10. _____ is clinical software designed primarily to automate the physician-ordering process wherein the physician will now create patient orders electronically and no longer use paper. CO5- R
 (a) COPE (b) CEOP (c) CPOE (d) SCPOE

PART – B (5 x 2= 10Marks)

11. What is mean by telecommunication? CO1- R
12. Distinguish between primary and secondary safety ?. CO2- R
13. What are different phases in implementation process? CO3- R
14. Define Risk management. CO4- R
15. What is mean by patient safety? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) What is mean by clinical engineering? Explain the roles of clinical engineering? CO1 U (16)
 Or
 (b) Explain briefly about the functional status of clinical engineering with neat diagram.. CO1- U (16)
17. (a) Write short notes on:
 (i) Clinical Necessity CO2- U (4)
 (ii) Operational Support CO2- U (4)
 (iii) Strategic Planning Process CO2- U (8)
 Or
 (b) Explain in detail about medical technology management practices and its scopes. CO2- U (16)
18. (a) Elloborate the techniques involved in logical framework implementation.. CO3- U (16)

Or

- (b) Outline the EHTP advantages in the following areas: CO3- U (8)
- (i) EHTP Application
 - (ii) Essential Equipment Lists CO3- U (8)
19. (a) Analyze the process involved in clinical engineering program performance using program indicators. CO4- U (16)
- Or
- (b) Draw the flow chart of Indicator management process and explain the process in detail. CO4- U (16)
20. (a) Analyse the process and methodology used in patient safety best practices model. CO5- U (16)
- Or
- (b) Write short notes in the clinical data repositories:
- (i) Process Analysis CO5- U (8)
 - (ii) Methodology CO5- U (8)

