A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59B02

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Biomedical Engineering

15UBM902- CLINICAL ENGINEERING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. BMETs stand for _____. CO1- R

   (a) Biomedical Equipment Teacher (b) Biomedical Engineering Technicians

   (c) Biomedical Equipment Technicians (d) Biomedical Engineering Teacher

2. The passage of the Food, Drug and Cosmetic Act in _____. CO1- R

   (a) 1937 (b) 1938 (c) 1939 (d) 1940

3. The health care delivery system is going through a transition that is driven by _____ major forces. CO2- R

   (a) One (b) Two (c) Three (d) Four

4. A technology strategic plan is derived from, and supports, well defined CO2- R

   (a) Clinical objectives (b) Clinical issues

   (c) Clinical conditions (d) Clinical processes

5. The EHTP is a methodology and a tool aimed at _____ health care technology planning and management. CO3- R

   (a) Clinical processing (b) Clinical & human

   (c) Strengthening and optimizing (d) Weakening and processing

6. The nature of implementation is slightly different for the different levels of _____ delivery. CO3- R

(a) Health issues (b) Health care (c) Health policy (d) Health benefits

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. Define Clinical Engineering. CO1- R

12. List the clinical necessity. CO2- R

13. Sketch the point of origin for the EHTP is disease classification. CO3- R

14. How the work categories involved in Clinical Engineering Program Database? CO4- R

15. Why did the health care reimbursement happen? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Elaborate the organizational chart of medical support services in clinical engineering departments with a neat block diagram. CO1 U (16)

Or

(b) (i) Brief the patient safety in clinical engineering. CO1- U (8)

(ii) Describe the hoc committee on patient safety recommended strategies. CO1- U (8)

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)	Summarize the following:	CO2- U	(8)
		(i) Technology Audit		
		(ii) Budget Strategies	CO2- U	(8)
18.	(a)	Explain the Essential Healthcare Technology Package (EHTP) logical framework with necessary diagrams.	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)	Demonstrate the managing clinical engineering performance using program indicators in detail.	CO4- U	(16)
		Or		
	(b)	Draw the flow chart of Indicator management process and explain the process in detail.	CO4- U	(16)
20.	(a)	Illustrate the step by step process of basics of HFMEA elaborately.	CO5- U	(16)
		Or		
	(b)	Write short notes in the clinical data repositories:		
		(i) Process Analysis	CO5- U	(8)
		(ii) Methodology	CO5- U	(8)