

Total No. of Questions : 4]

SEAT No. :

P8985

[Total No. of Pages : 2

Oct-22/BE/Insem-99

B.E. (E&TC)

ELECTRONIC PRODUCT DESIGN

(2019 Pattern) (Semester-VII) (404185 B) (Elective-IV)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagram must be drawn wherever necessary.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) Explain concept development and its six stages. [5]
b) Explain different tools and methods used for rapid prototyping. [5]
c) Explain steps involved in Life Cycle cost analysis. [5]

OR

- Q2)** a) Explain product design development in detail. [5]
b) What is rapid Prototyping? What are advantages of rapid prototyping? [5]
c) Explain design concerns and Heuristics. [5]

- Q3)** a) Describe reliability. Which factors are considered for the calculation of failure rate? [5]
b) Explain the following input interfaces to electronic products. [5]
i) Switches
ii) Sensors
iii) Analog pre-processing circuits
iv) A D C
c) Explain reliability. Write mathematical expressions for reliability of system and reliability of component. [5]

OR

P.T.O.

- Q4)** a) Explain fault tolerance as philosophy of system design and architecture using following areas. [5]
- i) Careful design
 - ii) Testable functions.
 - iii) Redundant architecture.
- b) Explain methods to investigate circuit operation to verify circuit design using. [5]
- i) Bread boards,
 - ii) Evolution boards
 - iii) Prototype.
- c) In high-speed circuit design, Explain the conservative criteria used to estimate when transmission line effects begin. [5]

