

SE. (Biomedical) Sem. III, May '08
Bio engineering mat & components

U3
114

n. 2900-08. *26/08/08* (REVISED COURSE)

CO-9592

(3 Hours)

[Total Marks : 100

B. : (1) Question No. 1 is **compulsory**.

(2) Attempt any **four** questions out of remaining **six** questions.

(3) **Figures** to the **right** indicate **full** marks.

(4) Illustrate with **sketches** whenever **required**.

(a) Classify various fixed resistors with their features and specifications. 14

(b) Describe various colour codes for resistors with two examples. 6

Draw neat sketches and explain the construction, specifications and applications of the following :- 20

(i) Electrolytic capacitors

(ii) Paper capacitors.

(a) Discuss the properties, biocompatibility and applications of Titanium and its alloy. 12

(b) Describe various tests which are carried out for biological testing of Biomaterials. 8

(a) Describe the construction and working of photovoltaic cell and LDR along with their applications. 10

(b) Differentiate the following :- 10

(i) Soldering and brazing

(ii) Preset and potentiometer.

(a) What is Relay ? Explain the construction and working of General Purpose Relay with suitable diagram. 10

(b) List the different types of switches and explain the working of any two switches in detail. 10

(a) Describe desirable properties of Nitinol and degradable ceramics as biomaterials. Also explain their applications. 10

(b) Enumerate the techniques used for surface testing of Biomaterials. Explain any one technique in detail. 10

Write short notes on : (any four) :- 20

(a) Corrosion and wear of Biomaterials

(b) Iron core and air core inductors

(c) Fuses

(d) Heat sink

(e) Connectors.
