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1) Organism and Machine
2) Unit and Measurement
3) Materials (Hemolysis)
4) Flow (Blood circulation)
5) Energy (Oxygenator, Dialyzer)
6) Movement (Joint prosthesis)
7) Designing and Machining (Artificial organs)
Fig. 1.1: Living body and machine

- Living body
- Mechanical engineering
- Machine
- Prosthesis

Mimic

Comprehension
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- Energy source
- Conversion and transmission of energy
- Motion control
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- Shape, Material

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- Electromotor
- Casing
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[Organism]

- Learning
- Adaptation
- Variation

[Machine]

Design

- Stability
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[Organism] [Machine]

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Individuality

Temperature

Material

Time

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Fig. 1.7(a) Control?

Technical term

Addition

Conversion

Adjustment, Regulation
Fig. 1.7(b) Control?

Technical term

Comparison
Fig. 1.8: Biomedical engineering field

Science & Engineering

Mechanics

Electronics

Materials

Biology

Pharmacy

Biomedical engineering

Medicine

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Fig. 1.9: Bridge Curriculum

Measurement Engineering

(Prof. A) Unit, Sensor, Amplifier, Error, etc.

Electrocardiogram (Prof. B)

Introduction to Medicine

(Prof. B) Pathology, Internal Medicine, Surgery, Diagnostics, etc.

Medical Engineering (Prof. C)

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