

Q.1

Classification of system

①

Natural system

vs

artificial system

→ occur in nature without human intervention

→ Human made on modified

→ Biological system

immune system

→ stereo system
Information system

How artificial systems are measured?

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① Effectiveness

(the extend to which a systems achieve its objectives)

② Efficiency

(consumption of inputs relative to outputs)

③ Usability

ability of the users of use the system

④ Satisfaction

(a subjective measure of usability on effectiveness)

② Deterministic system vs probabilistic system

→ **interaction** between the parts or **sub-systems** is known for deterministic

② → Ex: a program which performs exactly a set of instructions

③ is one in which all occurrence of even is known with certainty (perfectly predictable)

→ a system that can be **described** in terms of **probable behavior**

③ (a certain degree of error) in probability

② → an inventory system, a five year old doesn't follow certain instructions

③ (not predictable) (not know)

③ closed vs relatively closed vs open

— self contained, one that **does not** **exchange** materials, **information** or **energy** with its environment

— A freshman at 8:00am class

— In organizing and information processing

some system are **relatively isolated** with environment & **are not completely closed**

→ a pre 1990 manufacturing system

→ **exchange**

information, material or energy with environment **including** **random and undefined inputs**

→ Biological system

→ **proper structure**
→ **adapt to change**