IMPORTANT QUESTIONS

FUNDAMENTAL OF MECHANICAL ENGINEERING (BME101)

(1) Explain stress-strain diagram for ductile and brittle materials.

(2) Prove $E = 3K(1-2\mu)$. Also explain significance of Young's modulus (E).

(3) Explain the working of a four stroke SI engine with a neat sketch.

(4) Explain the working of a four stroke CI engine with a neat sketch.

(5) Explain the working of a two stroke SI engine with a neat sketch.

(6) Explain the working of a two stroke CI engine with a neat sketch.

(7) Compare between SI and CI Engines.

(8) Compare between two stroke and four stroke engines.

(9) Write a short note on electric vehicle and hybrid vehicle.

(10) Explain the working of a domestic refrigerator/Vapour compression refrigeration system or AC with a neat sketch.

(11) Develop the relationship between COP of heat pump and refrigerator.

(12) Explain the working of a Pelton wheel turbine with neat sketch.

(13) Explain the working of a Francis turbine with neat sketch.

(14) Explain the working of a reciprocating pump with neat sketch.

(15) Explain the working of a centrifugal pump with neat sketch.

(16) State and prove Pascal's law.

(17) Explain manometers and Bourdon tube pressure gauge with neat sketches.

(18) Explain thermocouple and pyrometer with neat sketches.

(19) Explain Venturi-meter with neat sketch.

(19) Explain control valves in detail.

(20) What is gear? Also classify gears.

(21) What is cam? Also classify cams.

(22) Explain Mechatronics with advantages and disadvantages. Also write applications of Mechatronics