

(AG519) Human Engineering and Safety

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Unit 1

Human factors in system development – concept of systems; basic processes in system development, performance reliability,

Unit II

Human performance. Information input process, visual displays, major types and use of displays, auditory and factual displays. Speech communications.

Unit III

Biomechanics of motion, types of movements, Range of movements, Strength and endurance, speed and accuracy, human control of systems. Human motor activities, controls, tools and related devices.

Unit IV

Anthropometry: arrangement and utilization of work space, atmospheric conditions, heat exchange process and performance, air pollution.

Unit V

Dangerous machine (Regulation) act, Rehabilitation and compensation to accident victims, Safety gadgets for spraying, threshing, Chaff cutting and tractor & trailer operation etc.

TEXT BOOKS:

1. Astrand, O.P and Rodhal, J. (1977). *Work Physiology*. Mc Graw hill Co. New York.
2. Ernest and Mc Cormick, E.L. (1970). *Human factors in engineering and design*. Mc Graw Hill Co., New York.
3. Grandjean, E. (1988). *Fitting the task to the man*. Taylor and Francis, London.

REFERENCE BOOKS:

1. Liljedhal, J.B, Carleton, W.M, Smith, P.K and David, M. (1978). *Tractors and power units*. John Wiley and sons, New York.
2. Murrel, K.H.F. (1978). *Ergonomics, Man in his working environment*. Chapman and Hall, London.