

**(AG514) Tractor Design and Testing**

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**Unit 1**

Procedure for design and development of agricultural tractor, Study of parameters for balanced design of tractor for stability & weight distribution

**Unit II**

Hydraulic lift and hitch system design. Design of mechanical power transmission in agricultural tractors.

**Unit III**

Design of Ackerman Steering and tractor hydraulic systems. Essential features of steering and hydraulic systems, problems associated in hydraulic systems.

**Unit IV**

Study of special design features of tractor engines and their selection.

**Unit V**

Design of seat and controls of an agricultural tractor. Tractor Testing.

**TEXT BOOKS:**

1. Barger, E.L., Liledahl, J.B., Carleton, W.M. and Mckibben, E.G. (1978). *Tractor and their power units*. Wiley Eastern pvt. Ltd, New York.
2. Kanafoshi, C.Z. and Karwawshi, T. (1976). *Agricultural Machines, Theory and Construction* (Vol. 1 and 2). USDA, Poland.
3. Pandya, N.C. and Shah, C.S. (1981). *Elements of Machine Design*. Charotar Publishing House, Anand.

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1. Kurtz, G.L., Thompson and Claer, P. (1984). *Design of Agricultural Machinery*. John Wiley & Sons, New York.
2. Radhey Lal and Datta, A.C. (1978). *Problems in Agricultural Engineering*. Sathya Prakashan, Allahabad.