**SYLLABUS FOR THE SUBJECT OF AGRICULTURE**

**PAPER-I**

**Total Marks: 100**

Natural resources (land, water, biological and climatic) of Pakistan and their impact on

crop production. Climatic factors and their relationship with crop growth processes like

photosynthesis, respiration and transpiration. Agro-ecological zones of Pakistan and

their features. Dry farming. Organic farming for agricultural environmental pollution

management. Use of bio-fertilizers, biopesticides and natural products. Biological N2

fixation and factors affecting biological N2 fixation. Source-sink relationships in crop

plants. Weed-crop interference; competition and allelopathic interactions.

Role of Agri. Extension in current and future agriculture in Pakistan. Methods and steps

to evaluate extension activities. Global overview of Agri. extension. Types, principles,

strategies and significance of audio-visual aids in Agri. Extension.

Importance, potential and principles of Agro-forestry. Various agro-forestry systems.

Forest products and utilization features of range management in Pakistan. Major wildlife

species found in Pakistan, their morphological features, behaviour and habitats.

National forest policy and other land use policies. Biodiversity, its conservation, threats

and losses, Impact of environmental changes on biodiversity.

Role of Indus Basin Irrigation System in the development of agriculture in Pakistan.

Current and future scope of farm mechanization in Pakistan.

Food processing and preservation. Food industries of Pakistan and their role in the

national economy. WTO implications to food business. Food analysis, contamination of

foods business. Food analysis, contamination of foods and its control measures.

Processing and uses of dairy products. Basic nutrition requirements of human body and

their relationship with nutrition related diseases.

Indicators and issues of agriculture sector in Pakistan and their role in national

economy. Land tenure systems and land reforms in Pakistan. Principles, objectives and

functions of WTO. Role of IT in agriculture.

**SUGGESTED READINGS**

*1. Afzal, M. 1977. farming in Pakistan. Acad. Sci., Islamabad, Pakistan.*

*2. Anderson, W.P. 1993. Weed Science Principles. 2nd ED. West Pub. Co. NY,*

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*3. Andrew, C.O. 1993. Applied agricultural Research: Foundations and*

*methodology. Westview Press.*

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*5. Awan, J.A, 2005 elements of food Science and Technology. Uni-tech*

*communications, Faisalabad, Pakistan.*

*6. Azhar, B.A. 1996. Pakistan Agricultural Economics. NBF, Islamabad, Pakistan*

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*8. Byerlee, D. and T. Hussain. 1992. Farming Systems of Pakistan. Vanguard*

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*10. FAO. Agricultural Extension: A reference manual. Rome, Italy.*

*11. Fitter, A.H. and P.K.M. Hay. 1987. environmental Physiology of Plants. 2nd Ed.*

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*13. GoP. 1963. Forest Policy Statement. 1947-90. All five years plans. Food & Agri.*

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*14. Greely, B. 1953. Forest policy. Min. Food & Agri,. GoP, Pakistan.*

*15. Grey, L., J.M. Rolfe and I. Edgington. 2005. Living Forests and Forestry 6th Ed.*

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*16. Hopkins, G.H. 1999. Introduction to Plant Physiology. John Wiley & Sons, NY,*

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*London, UK.*

*18. Khan, A.H. 1986. Rural Development in Pakistan. Vanguard Books Ltd., Lahore,*

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*Water. Directorate of Agri. Info., Lahore, Pakistan.*

*20. Landon, K.C. and J.P. Landon. 1998. Management information Systems: New*

*approaches to organizations and technology. Prentice & Hall Int., London, UK.*

*21. Memon, R.A. and E. Bashir (eds.) 1993. Extension Methods. NBF, Islamabad,*

*Pakistan.*

*22. Nazir, M.S. 1994. Crop Production. (eds.). E. Bashir and R. Bantel. National*

*Book Foundation, Islamabad, Pakistan.*

*23. Nielson, S.S 2003. Food Analysis Laboratory Manual. Chips Ltd., USA.*

*24. Palaniappan and K.Annadurani. 2006. Organic Farming Theory and Practice.*

*Sci. Publ., Jodhpur, India.*

*25. Quraishi, M.A.A., B.S. Khan and S. Yaqoob. 1998. Range Management in*

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*26. Quarishi, M.A.A., S.M.A. Qayume and R.A. Khan 2000. Practical Manual of*

*Wildlife Management. Vol. I., Dept. Forestry, Range management and Wildlife,*

*Univ. Agri. Faisalabad, Pakistan.*

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*trade negotiations. Cambridge, UK.*