JANNAYAK CHANDRASHEKHAR UNIVERSITY, BALLIA

Undergraduate Programme
Vocational Course
Semester – III

Mid Term Maximum Marks	- 25
Theory Exam Maximum Marks	- 75
Total Maximum Marks	**- 100**

Multimedia Animation and Graphics

Course Code	Course Name	Credits
	Multimedia, Animation and Graphics	**3**

Course Outcome:

On completing this course, the students will be able to-

- Exhibit a broad and coherent body of knowledge and bring the same to bear on identifying and solving the problems of Multimedia, Animation and Graphics
- Deepen their critical knowledge of Multimedia, Animation and Graphics and its practices.
- Develop critical skills to appreciate Multimedia, Animation and Graphics

Units	Course Contents
Unit-I	Introduction to Multimedia, Taxonomy of Multimedia, Introduction to Image, Graphics and Photography, Multimedia File Formats
Unit-II	Introduction to Animation, Techniques behind Animation, Advance Animation Techniques, Classification of Animation, Animation File Format
Unit-III	Introduction to Graphics, Graphics Design, Classification/Types of Graphics, Advantage and Disadvantage of Graphics, Graphics File Format

Suggested Reading:

1. Ralf Steinmentz, klara Naestedt: Multimedia Fundamentals: Vol 1- Media Coding and Content processing, 2nd edition, PHI, Indian Reprint 2008.
2. Prabhat K. Andleigh, kiran Thakrar, Multimedia Systems Design, PHI,2003.
3. Digital Multimedia, Nigel Chapman
4. Graphics, Multimedia and Animation by PHI Learning
5. Graphics, Multimedia and Animation by Laxmi Publications
6. Graphics, Multimedia and Animation by Vinra Publication

JANNAYAK CHANDRASHEKHAR UNIVERSITY, BALLIA

COMMUNITY SCIENCES(HOME SCIENCES)

Semester - III

VOCATIONAL COURSE

(Credits : 3)

Mid Term Maximum Marks	- 25
Theory Exam Maximum Marks	- 75
Total Maximum Marks	**- 100**

Objectives:

- Explain the need and importance of studying Home Science across life span.
- Learn about scope of Home Science.
- Understand the Home Science as a Vocational education

UNIT-1

- Definition, Philosophy and objectives of Home Science.
- Historical development of the field of Home Science in India.
- Areas of specialization in Home Science (Food & Nutrition, Resource Management, Textile and Clothing, Human Development, Extension Education).

UNIT-2

- Scope of Home Science (Food, nutrition and cookery, Household Management, Textile & Clothing, Health, First aid and home nursing, Child development and mother craft, Human relationship).
- Significance of Home Science in Education.
- Recent need of Vocationalization of Home Science.

UNIT-3

- Home Science: as it relates to Sociology, Economics, Psychology & Entrepreneurship development.
- Role of Home Science for empowering women (through enhancing communication skills, presentation skills, personal skills for placement.

References:

1. Bansal Indu & Kumari Chandra (2010) Home Science: An Introduction. Navjeevan Publication, Newai.
2. Jain, D., Women's employment possibilities of relevant research, Institute of Scoial Studies 1980.
3. Lenka Chandrashreee & Mishra Nibedita, Fundamentals of Home Science Part-1, Akinik Publications, New Delhi (2017).

JANNAYAK CHANDRASHEKHAR UNIVERSITY, BALLIA

Vocational Course (3 Credit)
For Bachelor of Science Semester III
ANALYTICAL INSTRUMENTATION

Mid Term Maximum Marks	- 25
Theory Exam Maximum Marks	- 75
Total Maximum Marks	**- 100**

Course Objectives: The course is designed to familiarize the students with a general knowledge of a number of analytical tools which are useful for clinical analysis in hospitals, pathological and pharmaceutical laboratories and also for environmental pollution monitoring and control.

Syllabus

Unit I: SPECTROPHOTOMETRY (9 Hours)
Spectral methods of analysis – Beer-Lambert law – Colorimeters – UV-Visible spectrophotometers – IR spectrophotometers – Atomic absorption spectrophotometers – Flame photometers – Applications

Unit II: CHROMATOGRAPHY (9 Hours)
Principle – Gas chromatography – Liquid chromatography – Affinity chromatography – Ion-exchange chromatography – High-pressure liquid chromatography – Applications

Unit III: GAS ANALYZERS (9 Hours)
Gas analysers – Types – IR analysers – Thermal conductivity analysers – Electrochemical gas analysers – Estimation of air pollution due to carbon monoxide, hydrocarbons, nitrogen oxides, and sulphur dioxide – Dust and smoke measurements

Unit IV: pH METERS AND WATER QUALTY ANALYZERS (9 Hours)
Principle of pH measurement, glass electrodes, hydrogen electrodes, reference electrodes, selective ion electrodes, ammonia electrodes, biosensors, dissolved oxygen analyzer – Sodium analyzer – Silicon analyzer

Unit V: RADIATION DETECTORS AND MAGNETIC RESONANCE TECHNIQUES (9 Hours)
Nuclear radiations – Nuclear radiation detectors – GM counter – Proportional counter – Solid state detectors – Gamma cameras – X-ray detector – NMR spectrometer – Mass spectrometer – Applications.

Course Outcomes: On completion of this course students would have a fundamental knowledge about the common instruments used in hospitals, industries and environmental pollution monitoring.

Text Books

1. Khandpur R.S., 'Handbook of Analytical Instruments', Tata McGraw Hill publishing Co. Ltd., 2003.
2. Willard H.H, Merritt L.L., Dean J.A. and Settle F.A., 'Instrumental methods of analysis', CBS publishing & distribution, 1995.

Reference Books

3. Robert D. Braun, 'Introduction to Instrumental Analysis', McGraw Hill, Singapore, 1987.
4. Ewing G.W., 'Instrumental Methods of Analysis', McGraw Hill, 1992.
5. Skoog D.A. and West D.M., 'Principles of Instrumental Analysis', Holt, Saunders Publishing, 1985.
6. Mann C.K., Vickers T.J. & Gullick W.H., 'Instrumental Analysis', Harper and Row publishers, 1974.
7. Wilson K. and Walker J., Practical Biochemistry: Principles and Technique, Cambridge University Press, 2015.

Web Resources

8. https://chem.libretexts.org/