AUDI 31393- Hearing Aids and Assistive Listening Devices

Status	**Optional (A)**
No of Hours	45 hours
No of Credits	3
Learning Outcomes	• Describe the different types of hearing aids and assistive devices. • Demonstrate the selection, care and maintenance of hearing devices
Methods of Teaching and Learning	Lectures
Module content	**Unit 1** • Historical development of hearing aids • Overview of basic components used in hearing aids **Unit 2** • Types of hearing aids - Body level hearing aids, body baffle effect, ear level hearing aids - Mono-aural, pseudo-binaural, binaural hearing aids - Directional hearing aids, custom and modular hearing aids - Routing of signals- head shadow/ baffle/ diffraction effect, variations of CROS - Output limiting - Extended high frequency amplification, frequency lowering techniques. - Group amplification systems - Signal processing in hearing aids- BILL, TILL, PILL Programmable and digital hearing aids - Signal enhancing technologies - Wireless connectivity of hearing aids and cochlear implants • Assistive listening devices- types and selection **Unit 3** • Electro acoustic measurements of hearing aids - Purpose, instrumentation, parameters, procedures, variables affecting measurements - IEC and ANSI standards - Environmental tests • Mechano acoustic couplers (ear mold) – types, procedure, hard, soft molds, effect of acoustic couplers on hearing aid response

	Unit 4 • Hearing aid selection - Pres-selection factors (eg. Monaural vs. binaural fitting) - Prescriptive procedures – linear and non-linear hearing aids, and comparative procedures - Use of immittance, OAEs, speech in noise testing, UCL and Acceptable noise measurement, and tolerance testing for hearing aid selection - Verification – functional gain to include speech spectrum and insertion gain measurement - Validation – outcome measurement - Hearing aids for conductive hearing loss - Hearing aids for children and elderly • Hearing aid care and maintenance - Counseling and orienting the user - Trouble shooting - Adjusting to amplification
Assessment	SEQ 100% (3 hours)