Department of Radiology &Imaging Techniques

Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Clinical Radiography Positioning-I**	**Course Code:**	**BRT301**	**Type: Semester**	**Theory**
Credits	**05**			**Total Sessions Hours:**	**40**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	This course is designed to provide the students the basic knowledge in Radiography. At the end of the course, the student should be able to: 1) Explain the role of radiographer and positioning of various body parts, normal functioning of various organ systems of the body and their interactions. 2) Elucidate the radiological aspects of normal growth and development. 3) Describe the patient response and adaptations to environmental stresses.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Explain how to take good quality images with as low as radiation dose in upper limb and lower limb.				
CO2	Enumerate immobilization technique and immobilization devices. Use positioning devices.				
CO3	**W**ork in clinical practice and know about patient care				
CO4	Able to know and perform dental radiography				
CO5	Able to know abdominal radiography.				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				

Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.		
Session Details	**Topic**	**Hours**	**Mapped CO**
Unit 1	Upper limb: Technique for hand, fingers, thumb, wrist joint carpal bones, forearm, elbow joint, radio ulnar joints and humerus supplementary techniques for the above. E.g. Carpal tunnel view, ulnar groove, head of the radius, supracondylar projections. Lower limb: Technique for foot, toes, great toe, tarsal bones, calcaneum, ankle joint, lower leg, knee, patella & femur. Supplementary techniques: Stress view for tom ligaments, a. Subtalar joint and talo calcaneal joint. b. Inter condylar projection of the knee. c. Tibial tubercle. Length measurement technique.	5	CO1
Unit 2	Shoulder girdle and thorax: Technique for shoulder joint, scapular, clavicle, acromio clavicular joints, sternum, ribs, sterno-clavicular joint. Supplementary projections and techniques a. Recurrent dislocation of shoulder. b. Traumatic dislocation of shoulder. c. Cervical ribs.	5	CO2

Unit 3	Vertebral column: Technique for atlanto-occipital joint, cervical spine, cervico thoracic spine, thoracic spine, thoraco- lumber spine, lumbo sacral spine, sacrum and coccyx. Supplementary techniques to demonstrate: a. Scoliosis. b. Kyphosis c. Spondylolisthesis d. Disc lesion e. Union of spinal graft. Adaptation of techniques to demonstrate specific pathologies. Pelvic girdle and hip region: Technique for whole pelvis. Ilium, ischium, pubic bones, sacra iliac joint, symphysis pubis, hip joint, acetabulum neck of femur, greater and lesser trochanter.	5	CO3
Unit 4	Supplementary techniques- a. Congenital dislocation of hips b. Epiphysis of femur: c. Lateral projections for hip joints to show femoral head and neck relationship. Skeletal survey: Skeletal survey for metabolic bone disease, metastases, hormonal disorder, renal disorders. 8. Skull: Basic projections for cranium, facial bones, nasal bones and mandible. Technique for a. Petrous temporal for mastoids. Internal auditory canal. - Accessory nasal sinuses. b. Tempera - mandibular joint. - Orbits and optic foramen. - Zygomatic arches. c. Styloid process. - Pituitary fossa. - Jugular foramen.	5	C04
Unit 5	Dental Radiography: Technique for intra oral full mouth, occlusal projections, extra oral projections including orthopantomography, Supplementary techniques. Upper respiratory system: Technique for post nasal airways, larynx, trachea, thoracic inlet - Valsalva manoeuvre. - Phonation. Lungs and Mediastinum:	5	C05
Unit 6	Technique for routine projections: Projections: Antero-posterior, obliques, lordotic, apical projection, use of penetrated posteroanterior projection. - Expiration technique. - Technique for pleural fluid levels and adhesions.Abdominal viscera: For plain film examination, Projection for acute abdomen patients. Technique to demonstrate:	5	CO6

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	2	2	2	3	2	2	2	2	2	3	3	2
CO2	3	2	2	2	2	3	2	2	2	3	2	2	2	2
CO3	3	2	2	3	2	2	3	2	3	2	2	2	2	2
CO4	2	2	2	3	2	2	2	3	3	2	3	2	2	3
CO5	3	3	3	2	2	2	2	2	2	2	2	2	3	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text- Books	1. Clark's Radiography- Clark Radiographic positioning- Garkal
Reference Books	1. Clark's Radiography- Clark Radiographic positioning- Garkal

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	**Marks**	**Pattern**
Terminal Exam	12	1. Contains a descriptive question of 4 marks 2. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	

Class participation or any other	4	
Class Presentation	4	
Attendance Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology &Imaging Techniques

Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Clinical Radiography Positioning-I**	**Course Code:**	**BRP301**	**Type: Semester**	**Practical**
Credits	**03**			**Total Sessions Hours:**	**60**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	This course is designed to provide the students the basic knowledge in Radiography. At the end of the course, the student should be able to: 4) Explain the role of radiographer and positioning of various body parts, normal functioning of various organ systems of the body and their interactions. 5) Elucidate the radiological aspects of normal growth and development. 6) Describe the patient response and adaptations to environmental stresses.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Explain how to take good quality images with as low as radiation dose in upper limb and lower limb.				
CO2	Enumerate immobilization technique and immobilization devices. Use positioning devices.				
CO3	**W**ork in clinical practice and know about patient care				
CO4	Able to know and perform dental radiography				
CO5	Able to know abdominal radiography.				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				

Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.		
Session Details	**Topic**	**Hours**	**Mapped CO**
Unit 1	1. All Views of Hip and Pelvis: Theatre procedure for Hip, Pinning and Reduction, Pelvis, Sacro-ilac Joint, Pelvis Bone, Acetabulum.	20	C01
Unit 2	**1.** All Views and techniques of Vertebral Column: Cervical Spine, Thoracic spine, Lumbar spine, Sacrum, Coccyx	20	C02,CO4

Unit 3	**1.** All views and techniques Abdomen: Gastro-intestinal tract, urinary tract Skeletal Survey.	20	CO3,CO5

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	2	3	2	3	3	3	2	2	2	2	2
CO2	2	2	2	2	2	2	2	3	1	2	2	2	1	1
CO3	2	2	3	2	3	2	2	1	2	1	2	2	2	2
CO4	3	3	2	2	2	2	2	1	2	2	1	1	2	2
CO5	2	2	2	2	2	2	2	1	2	1	1	2	2	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text- Books	1. Clark's Radiography- Clark Radiographic positioning- Garkal
Reference Books	1.Clark's Radiography- Clark Radiographic positioning- Garkal

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Terminal Exam	12	3. Contains a descriptive question of 4 marks 4. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	

Class participation or any other	4	
Class Presentation	4	
Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology & Imaging Techniques

Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Contrast & Special Radiography Procedures**	**Course Code:**	**BRT303**	**Type: Semester**	**Theory**
Credits	**03**			**Total Sessions Hours:**	**40**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	This course is designed to provide the students the basic knowledge in systematic investigations with using contrast media and image intensifier.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Explain indication, contraindication and reactions of contrast media. Demonstrate how to take in minimum numbers of exposures in each special investigation.				
CO2	Demonstratethe positioning and technique of the special studies.				
CO3	Explain the technique of all GIT study according to investigation.				
CO4	Demonstrate surface anatomy.To be able to know the technique behind the radiography.				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				
Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.				
Session Details	**Topic**			**Hours**	**Mapped CO**

Unit 1	Special radiographic procedures Responsibility of Radiographer during Radiological Procedures. Preparation of Patient for Different Procedures. Contrast Media - Positive and Negative, Ionic & Non - Ionic Adverse Reactions To Contrast Media and Patient Management Emergency Drugs in the Radiology Department Emergency Equipments In the Radiology Department Aseptic technique Indications, contraindications, basic techniques and relationship to other techniques of the following special procedures	5	CO1
Unit 2	Gastrointestinal Tract: Fluoroscopy, general considerations, responsibility of radiographers Barium swallow, pharynx and oesophagus Barium meal and follow through Hypotonic duodenography Small bowel enema Barium Enema routine projections for colon and rectum, colonic activators; double contrast studies; colostomy. Special techniques for specific disease to be examined Water soluble contrast media - eg. gastrograffin studies b. Salivary glands: Routine technique, procedure - sialography c.	5	CO2

Unit 3	Biliary system: Plain film radiography Intravenous cholangiography Percutaneous cholangiography Endoscopic retrograde cholangio-pancreatography (ERCP) Operative cholangiography Post-Operative cholangiography (T - tube Cholangiography)	5	CO3
Unit 4	Urinary system: Intravenous urography Retrograde pyelography Antegrade pyelography Cystography and micturatingcystouresthrographyUrethrography (ascending) Renal puncture	5	CO4
Unit 5	Female reproductive system: Hysterosalpingography. Respiratory system: Bronchography: Awareness. h. Sinusography: Routine technique and procedure.	5	CO4
Unit 6	Multiple radiography. Uses of soft tissue radiography. 1. High kV RadiographyGeneral principles Relation to patient dose Change in radiographic contrast. Scatter elimination; beam collimation; grid ratio. Speed and type of grid movement. Radiographic factor; application and uses. m. Localization of foreign bodies: General location principles. Ingested; inhaled; inserted; embedded foreign bodies. Foreign bodies in eye. Preparation of the area to be investigated. Appropriate projection for all Techniques to locate non-opaque foreign body.	5	CO2, CO4

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	2	2	2	2	3	2	2	2	2	2	3	3
CO2	3	2	2	3	2	2	2	2	2	2	3	3	3	2
CO3	3	2	2	3	3	3	2	2	2	3	2	2	3	2
CO4	3	2	2	2	3	2	3	2	2	3	2	2	3	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text- Books	Clark's Radiography- Clark/ Text book of radiology for residents and technicians

Reference Books	1. Radiographic positioning- Garkal 2. Radiology- Special investigation - champman

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	**Marks**	**Pattern**
Terminal Exam	12	5. Contains a descriptive question of 4 marks 6. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	
Class participation or any other	4	

Class Presentation	4	
Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology & Imaging Techniques

Era University, Lucknow

Course Outline

Effective From 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Contrast & Special Radiography Procedures**	**Course Code:**	**BRP303**	**Type: Semester**	**Practical**
Credits	**03**			**Total Sessions Hours:**	**60**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	This course is designed to provide the students the basic knowledge in systematic investigations with using contrast media and image intensifier.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Explain indication, contraindication and reactions of contrast media. Demonstrate how to take in minimum numbers of exposures in each special investigation.				
CO2	Demonstrate the positioning and technique of the special studies.				
CO3	Explain the technique of all GIT study according to investigation.				
CO4	Demonstrate surface anatomy.To be able to know the technique behind the radiography.				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				
Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.				

Session Details	Topic	Hours	Mapped CO
Unit 1	1.Radiography in various positions for all the special radiological procedures, using contrast media	30	CO1
Unit 2	1. Identification of various films for all the special radiological procedures, using contrast media and related pathologies	30	CO2,CO3. CO4

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	2	2	2	2	3	1	2	3	2	2	2
CO2	2	2	1	3	2	1	2	2	2	2	3	2	2	2
CO3	2	3	1	2	2	3	2	2	2	2	2	3	2	2
CO4	2	3	2	2	2	2	2	2	3	2	2	2	1	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text- Books	Clark's Radiography- Clark/ Text book of radiology for residents and technicians
Reference Books	1. Radiographic positioning- Garkal 2. Radiology- Special investigation - champman

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Terminal Exam	12	7. Contains a descriptive question of 4 marks 8. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	

Class participation or any other	4	
Class Presentation	4	
Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology & Imaging Techniques

Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Modern radiological & imaging Equipment including physics**	**Course Code:**	**BRT302**	**Type: Semester**	**Theory**
Credits	**03**			**Total Sessions Hours:**	**40**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	The purpose of this course is to provide an understanding of physical concepts and underlying various technological applications of mammography and computed radiography and DSA. Should able to scanning also in mammography,computed radiography and DSA.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Perform the procedure of mammography scanning.				
CO2	Enumerate and able to know the principle computed radiography.				
CO3	Able to know and perform vascular imaging with PACS				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				
Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.				
Session Details	**Topic**			**Hours**	**Mapped CO**

Unit 1	Mammography, History of mammography, Mammographic equipment, Mammographic radiation dose and exposureDedicated mammographic unit and its special features, Types of mammographRoutine Mammographic Positioning & Views with additional views and technical considerations, Wire localization in mammography.	7	CO1
Unit 2	Special equipment: Portable and mobile x-ray units, dental x-ray machine, skull table Generator, x-ray tubes; Accessories; Resolution; Quality control; Application and role in medicine. , digital radiographic equipment, digital subtraction techniques. Tomography: Body section radiography, basic principle and equipment, multi section tomography, various types of tomographic movements, Dual energy x-ray absorptionometry (DEXA), stats can.	6	CO2

Unit 3	Computed radiography: its principle, physics & equipment. Digital Radiography. Flat panel digital fluoroscopy and radiography system, Direct and indirect digital radiography and fluoroscopy systems. Digital radiography and Computed radiography its advantages, disadvantage; and applications**.**	9	CO3
Unit 4	Vascular Inaging Equipment: Introduction, historical developments, Principle, scanned projection radiography, digital subtraction angiography, applications and definition of terms. 4. Picture archiving and communication system (PACS)	8	CO2

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO 1	3	3	2	2	2	3	2	2	2	2	3	2	3	2
CO 2	2	2	2	2	2	2	2	2	3	2	2	2	2	3
CO 3	2	2	3	2	2	2	3	3	2	2	2	3	2	3

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text-Books	1. Clark's Radiography- Clark/ Text book of radiology for residents and technicians- 2. S k bhargava Radiographic positioning- Garkal
Reference Books	. Clark's Radiography- Clark/ Text book of radiology for residents and technicians-

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Terminal Exam	12	9. Contains a descriptive question of 4 marks 10. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	

Class participation or any other	4	
Class Presentation	4	
Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology & Imaging Techniques

Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	**BRIT**			**Year/ Semester:**	**3rd**
Course Name	**Modern radiological & imaging Equipment including physics**	**Course Code:**	**BRP302**	**Type: Semester**	**Practical**
Credits	**03**			**Total Sessions Hours:**	**60**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	The purpose of this course is to provide an understanding of physical concepts and underlying various technological applications of mammography and computed radiography and DSA. Should able to scanning also in mammography,computed radiography and DSA.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)					
CO1	Perform the procedure of mammography scanning.				
CO2	Enumerate and able to know the principle computed radiography.				
CO3	Able to know and perform vascular imaging with PACS				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				
Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.				
Session Details	**Topic**			**Hours**	**Mapped CO**

Unit 1	1. X-Ray tubes and accessories, general features.	15	CO1
Unit 2	1. Portable X-Ray Equipment. 2. Dental X-Ray unit.	15	CO2

Unit 3	1. Image intensifier, its features, spot film. 2. Radiation protection devices 3. Effects of kVand mAs.	15	CO2,CO3
Unit 4	1. Maintenance of X-ray equipment and accessories. 2. Mammography X-Ray tube	15	CO3

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	3	3	3	3	2	2	2	2	2	2	2
CO2	2	2	2	3	3	2	2	2	2	3	2	2	2	2
CO3	2	3	3	2	3	2	2	2	2	3	2	2	3	3
CO4	3	3	2	2	2	3	2	2	2	2	2	2	3	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Suggested Readings:

Text- Books	1. Clark's Radiography- Clark/ Text book of radiology for residents and technicians- 2. S k bhargava Radiographic positioning- Garkal
Reference Books	1. Clark's Radiography- Clark/ Text book of radiology for residents and technicians-

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Terminal Exam	12	11. Contains a descriptive question of 4 marks 12. Contains 4 MCQs 3. Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Project/Assignments	4	

Class participation or any other	4	
Class Presentation	4	
Bed Side Behavior or Interaction in Class	2	
Total Marks	**30**	

Department of Radiology and Imaging Techniques Era University, Lucknow

Course Outline

Effective From 2023-24

Name of the Program	**B.R.I. T**			**Year/ Semester:**	**3rd**
Course Name	**English & Communication Skills-II**	**Course Code:**	**BRT 304**	**Type: Semester**	**Theory**
Credits	**03**			**Total Sessions Hours:**	**40**
Evaluation Spread	**Internal Continuous Assessment:**	**30**		**End Term Exam:**	**70**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	● Understand the importance of Analytical aspect and critical thinking ● To inculcate the skill of literary work ● To know the basics of Research Methodology ● To develop analytical skills and thinking ● To learn the digital assistant for learning as well as teaching				
Course Outcomes (CO): *After the successful course completion, learners will develop the following attributes:*					
Course Outcome (CO)					
CO1	● Using communication in their own field and creating new opportunities				
CO2	Enabling students to get digitally smart with communication online tools .				
CO3	● Understanding the dynamics of the subject and moving towards holistic development				
Pedagogy	Explanations by the Instructor, Group/Pair Work, Discussion, Assignment, Practical, Presentations.				

Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.		
Session Details	**Topic**	**Hours**	**Mapped CO**
Unit 1	Advance Communication – • Creative Writing & Critical Thinking • Articles & Memos [Field specific] • Journal writing - [field specific journals] • Analyze, interpret and effectively summarize a variety of textual content • Debate & Group Discussion	10	CO1 ,CO 2
Unit 2	Professional Communication – • Role of "Active Emotional Awareness" in Professional Communication • Conference, Seminar, Symposium & Panel Discussion • Self-Awareness – self-image, self-talk & PD	10	CO 2,C O 3

Unit 3	Analytical Skills - [Field Specific] • Literature Review • Case Study [basic] • Research Methodology Essentials	10	CO2,CO 3
Unit 4	Different perspective of communication [Field Specific] ● Video creation ● Online platform – Applications, creating licensed contents and ICT [Modern approaches, facilities and tools] ● E- mail writing, blog creation, virtual classroom, digital pronunciation dictionaries, online spoken tutorials, digital libraries, documentaries etc.	10	CO1 ,CO 2,CO3

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	1	2	2	2	2	1	2	3	2	3	2	3
CO2	2	2	3	2	2	3	2	2	3	2	3	2	2	2
CO3	1	2	2	2	3	2	3	3	2	2	2	3	3	2

Strong contribution-3, Average contribution-2 , Low contribution-1,

Recapitulation & Examination Pattern

Component	**Marks**	**Pattern**
Terminal Examination	12	13. Contains a descriptive question of 4 marks 14. Contains 4 MCQs Contains 2 short answer questions. Each question carries 2 marks
Attendance	4	
Projects/Assignments	4	
Class Participation or any other	4	
Bedside behaviour	02	
Total marks	30	
