

Name of Institute: Indus Institute of Sciences, Humanities and Liberal Studies (IISHLS) Name of Faculty: Dr. Manisha Vithalpura

Course code: PH0011

Course name: Engineering Physics

Pre-requisites: 12th Std Physics (Calculus, Vector analysis, Introduction of Electromagnetism, Quantum concept) Credit points: 04 Offered Semester: I

Course Coordinator (weeks 01 - 17)

Full Name: Dr. Manisha Vithalpura Department with sitting location: Physics Department, Physics lab Telephone: 3314 (sitting location), 7874636405 (Mobile) Email: manishavithalpura.gd@indusuni.ac.in Consultation times: 1:30 pm to 4:00 pm (Tuesday)

Course Lecturer (weeks 01 - 17) (CE-1)

Full Name: Dr. Tanushree Basak Department with sitting location: Physics Department, Physics lab Telephone: 3314 (sitting location), 9374979897 (Mobile) Email: tanushreebasak.gd@indusuni.ac.in Consultation times: 1:30 pm to 4:00 pm (Tuesday)

Course Lecturer (weeks 01 - 17) (CE-2)

Full Name: Dr. Manisha Vithalpura Department with sitting location: Physics Department, Physics lab Telephone: 3314 (sitting location), 7874636405 (Mobile) Email: manishavithalpura.gd@indusuni.ac.in Consultation times: 1:30 pm to 4:00 pm (Tuesday)

Course Lecturer (weeks 01 - 17) (CE-3)

Full Name: Dr. Tanushree Basak Department with sitting location: Physics Department, Physics lab Telephone: 3314 (sitting location), 9374979897 (Mobile) Email: tanushreebasak.gd@indusuni.ac.in Consultation times: 1:30 pm to 4:00 pm (Tuesday)

Students will be contacted throughout the Session via Mail with important information relating to this Course.

Course Objectives

By participating in and understanding all facets of this Course a student will:

1) To describe the basic laws of Physics, mathematical foundations and Engineering theory and to apply the knowledge in modeling and



designing a real-world problem (fundamental engineering analysis skills).

- 2) To analyze a problem, identify and formulate using the concept of physics and to solve engineering problem (engineering problem solving skills).
- 3) To analyze and interpret experimental data using concepts of Physics (information retrieval skills).
- To analyze and use current techniques, skills and tools necessary for Physics and engineering practice (practical engineering analysis skills).

Course Outcomes (CO)

- 1. To understand the basic concept of physics in the engineering field
- 2. To analyze a problem, identify and formulate using the concept of physics and to solve engineering problem
- 3. To understand the properties of dielectric and magnetic material and their applications in electric and magnetic devices
- 4. To understand the basic principle of superconductivity and ultrasound with specific applications in engineering
- 5. To analyze the concept of quantum mechanics and semiconductor physics and its applications in engineering field
- 6. To understand the optical phenomena of light like Interference and Diffraction and its application in optical devices

Course Outline

UNIT-I : Introduction to Electromagnetic

Module:1 Electrostatics & Dielectrics

Coulomb's law for distribution of charges, Gauss's law and applications, Electric field intensity, Electric flux, Electric dipole moment, Electric field due to dipole, Introduction to dielectrics, Polarizability, Types of polarization – electronic, ionic, orientational, Polarization of dielectrics, Gauss's law in presence of dielectric, Dielectric constant, Electric susceptibility and Permittivity, Internal (Local) field in dielectric, Clausius Mossotti equation (with derivation)

Module:2 Magnetism

Magnetic field, Steady current, Ampere's law, Biot-Savart law and its applications, Faradays law of Induction, Lenz's Law; Effect of magnetic field on current carrying conductor, Lorentz force.

Basic important terms and units in Magnetism, Concept and origin of magnetic moment, magnetic susceptibility, Total angular momentum, Diamagnetism, Paramagnetism, Ferromagnetism, Ferrimagnetism, Antiferromagnetism, Domain theory of Ferromagnetism, Curie temperature and hysteresis loss



UNIT-II : Superconductivity and Sound

Module 1: Superconductivity

Superconductivity: Zero resistance, Critical temperature, Meissner effect, Critical field, General properties of superconductors, Type-I and Type-II superconductors, BCS theory of Superconductor, High temperature superconductors, Applications of Superconductors: SQUID, Maglev etc.

Module 2: Sound

Introduction to sound waves, Characteristics and Properties of Sound, Absorption co-efficient, Reverberation time, Sabine's formula (without derivation), Factors affecting architectural acoustics,

Introduction of Ultrasonic waves, Generation of ultrasonic waves, Detection of ultrasonic waves, Applications of Ultrasonic waves: NDT, SONAR & others.

UNIT-III : Introduction to Quantum and Semiconductor Physics

Module 1: Quantum Mechanics

Black body radiation: Planck's law; Wave nature of Particles: De-Broglie theorem, Uncertainty principle; Schrodinger's wave equation – Time independent and time dependent equations; Born interpretation, probability current; Solution of stationary-state Schrodinger equation for one dimensional problems– particle in a box

Module 2 : Introduction to solids and Semiconductor Physics

Kronig-Penny model (to introduce origin of band gap), Energy bands in solids, E-k diagram; Types of electronic materials: metals, semiconductors, and insulators, Density of states, Occupation probability, Fermi level, Effective mass. Intrinsic and extrinsic semiconductors, Dependence of Fermi level on carrierconcentration and temperature (equilibrium carrier statistics), Carrier generation and recombination, Carrier transport: diffusion and drift, p-n junction diode.

UNIT-IV : Wave Optics& Laser

Module 1: Wave optics

Huygens' principle, superposition of waves and interference of light by wave front splitting and amplitude splitting; Young's double slit experiment, Newton's rings, Farunhofer diffraction from a single slit, the Rayleigh criterion for limit of resolution and its application to vision; Diffraction gratings and their resolving power, Michelson interferometer

Module 2: Laser

Einstein's theory of matter radiation interaction and A and B coefficients; Amplification of light by population inversion, Properties of laser beams: monochromaticity, coherence, directionality and brightness; Different types of lasers: gas lasers (He-Ne), solid-state lasers (Neodymium); Applications of lasers in science, engineering and medicine.



Method of delivery

(Face to face lectures, Power Point Presentation, Self assessment, Active Learning Techniques)

Study time

(3 hours per week for lectures, 2 hours per week for Practical)

Graduate Qualities and Capabilities covered

(Qualities graduates harness crediting this Course)

| General Graduate Qualities | Specific Department of Graduate Capabilities |
|--|--|
| Informed Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how to apply this knowledge. Understand how an area of study has developed and how it relates to other areas. | 1 Professional knowledge, grounding & awareness Basic concept of basic physics Also application of the physics principle in engineering field |
| Independent learners Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others. | 2 Information literacy, gathering & processing Critical and logical thinking is developed through numerical practice. Used various sources of the material and technology to perform the experimental part. |
| Problem solvers Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement decisions. Be flexible, thorough, innovative and aim for high standards. | 4 Problem solving skills By practicing numerical, logical and critical thinking will be developed. |
| Effective communicators Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication. | 5 Written communication Conducting frequent unit test will develop their written communication skill 6 Oral communication Arranging presentation on different physics topics throughout the semester 7 Teamwork Group discussion in class and lab |



| | is arranged |
|---------------------------------------|-------------------------------|
| Responsible | 10 Sustainability, societal & |
| Understand how decisions can affect | environmental impact |
| others and make ethically informed | |
| choices. Appreciate and respect | |
| diversity. Act with integrity as part | |
| of local, national, global and | |
| professional communities. | |

Practical work:

| Experiment | Title |
|------------|---|
| 1 | Dielectric constant: To determine the dielectric constant |
| _ | of a dielectric substance |
| | |
| 2 | To determine the magnetic field at the center of a coil |
| | and its variation with distance and radius of the coil. |
| 3 | To verify the Faraday's law of electromagnetic |
| | induction. |
| | |
| 4 | Hysteresis loss:To determine the Hysteresis loss in a |
| | Ferromagnetic material. |
| 5 | Illtrasonic Interferometer: To determine the wavelength |
| | ond used site of other series on the series of the series |
| | and velocity of ultrasonic wave through ultrasonic |
| | interferometer. |
| 6 | Planck's Constant: To determine the Planck's Constant |
| | using LED |
| 7 | To study the V-I characteristics of p-n junction diode |
| 8 | To verify the Inverse Square Law using Photocell |
| J | To verify the inverse square Law using Photocen |
| 9 | To determine the refractive index of prism using |
| | Spectrometer |
| 10 | Resolving power of grating: To determine resolving |
| | power of a diffraction grating. |
| 11 | Newton's Ring: To determine the wavelength of |
| | monochromatic light |
| | |

Determination of Wavelength of Laser: To determine

ज्ञानेन प्रकाशते जगत् INDUS

the wavelength of LASER using diffraction grating.

Lecture/tutorial times

Lecture time CE-1 : Tuesday time: 11.55 am to 12.50 pm Thursday time: 11.55 am to 12.50 pm Friday time: 11.00 am to 11.55 am

Practicals : Tuesday: batch-1 time: 9.00 am to 10.50 am Thursday : batch-2 time: 9.00 am to 10.50 am

Lecture time CE-2 : Wednesday time: 11.55 am to 12.50 pm Thursday time: 1.30 pm to 2.25 pm Friday time: 11.55 am to 12.50 pm

Practicals : Wednesday: batch-1 time: 9.00 am to 10.50 am Friday : batch-2 time: 9.00 am to 10.50 am

Lecture time CE-3 : Monday time: 9.00 am to 10.50 am Tuesday time: 9.00 pm to 10.50 am Thursday time: 11.55 am to 12.50 pm

Practicals : Monday: batch-1 time: 11.00 am to 12.50 pm Tuesday : batch-2 time: 1.30 pm to 3.20 pm

Details of referencing system to be used in written work

Unit test will be conducted in the classes and test papers will be kept with course coordinator for the future reference.

Text books

- 1. Engineering Physics by H K Malik, A K Singh, Tata Mc Graw-Hill Education Pvt. Ltd., 2nd edition, 2018, ISBN: 978-93-5260-695-5
- 2. Engineering Physics by D.K. Bhattacharya, Poonam Tandon,Oxford University Press, first published, 2015, ISBN-13:978-0-19-945281-1





 Engineering Physics; Fundamentals and Modern applications by P. Khare& A. Swarup, Jones & Bartlett Learning, 2009, ISBN-13: 978-0763773748

ज्ञानेन प्रकाशते जगत् जित्रा INDUS

NIVERSITY

- 2. A textbook of Engineering Physics by S.O. Pillai and Sivakami,New Age International, Third edition, 2011, ISBN:978-81-224-3162-9
- 3. An introduction to Electrodynamics by David Griffiths, Pearson Education, 3th edition, 1999, ISBN:9780138053260
- Optics by A. Ghatak, McGraw-Hill Education India Private Limited, 6th edition, 2017, ISBN-13:978-9339220907
- 5. Engineering Electromagnetics by W H Hayt& J A Buck, McGraw-Hill Education, 8th edition, 2017, ISBN-13:978-9339203276
- 6. Engineering Physics by K. Rajagopal, Prentice Hall of India Pvt. Ltd., 2007, ISBN: 9788120332867
- A Textbook of Engineering Physics by M. N. Avadhanulu, P. G. Khirsagar, S.Chand Pub., Revised edition, 1992, ISBN: 9788121908177
- University Physics, Sears and Zemansky, Pearson Education India, 13th edition, 2013, ISBN-13:978-8131790274

Web resources:

- 1. Topics: Acoustics & Optics: <u>http://www.nptel.iitm.ac.in/courses/Webcourse-</u> <u>contents/IIT%20Guwahati/engg_physics/index_cont.htm</u>
- 2. Course: Engineering Physics: <u>http://www.nptelvideos.in/search?q=engineering+physics</u>
- 3. **Topic: Laser:**http://science.howstuffworks.com/laser1.htm
- 4. **Topic: Optics:** <u>http://www.pitt.edu/~poole/physics.html#light</u>
- 5. Topic: Magnetism: <u>https://www.khanacademy.org/science/physics/magnetic-forces-and-magnetic-fields</u>
- 6. Topic: Interference: https://www.khanacademy.org/science/physics/light-waves
- 7. Topic: Quantum Mechanics: <u>https://ocw.mit.edu/courses/physics/8-04-quantum-physics-i-spring-2016/index.htm</u>



ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

| Continuous Internal Evaluation (Theory |) | |
|---|-----------------|-------------------|
| Mid-Sem exam | 40% , Unit-1/2, | Objective (1,2,5) |
| Assignment | 10%, Objectiv | /e (1,2,5) |
| Project/Presentation | 5%, Objective | (1,2,6) |
| Attendance | 5% (end of the | e semester) |
| Total | 60% (CIE theo | ry) |
| Final exam (closed book) | 40% | Óbjectives (1-6) |
| | | - |

SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in mid semester or end semester will be considered for supplementary assessment in the respective components (i.e mid semester or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (mid semester or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

Practical Work Report/Laboratory Report:

Student has to complete the experiment in their respective lab in a week, will be evaluated weekly basis. A report on practical work is to be submitted after completion of the lab by each group.

Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.



Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

Plagiarism - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

Do not copy the work of other students. Do not share your work with other students (except where required for a group activity or assessment.

Course schedule(subject to change)

| Week # | Topic & contents | CO Addressed | Teaching Learning Activity (TLA) |
|---------|--|-----------------|---|
| Weeks 1 | M-1 : Coulomb's law for distribution of charges, Gauss's law and applications, Electric current and Equation of continuity, Electric field intensity, Electric flux, Electric dipole moment, Divergence and curl of electrostatic field, Introduction to dielectrics, Polarizability, Types of polarization – electronic, ionic, orientational, Polarization of dielectrics, Gauss's law in presence of dielectric, Dielectric constant, Electric susceptibility and Permittivity, | 1,2,5 | PPt, chalk and board |
| Weeks 2 | Internal (Local) field in dielectric, Clausius Mossotti equation (with derivation), M-2: Magnetic field, Steady current, Biot-Savart law, Ampere's law, Divergence and curl of static | 1,2,3 | Chalk and Board |

| | magnetic field, vector potential and calculating it for a given magnetic field using Stokes' theorem, | | |
|---------|---|-------|----------------------------|
| Week 3 | Effect of magnetic field on current carrying conductor, Lorentz force, Faraday's law in terms of EMF produced by changing magnetic flux; Lenz's law; M-3: Basic important terms and units in Magnetism, Concept and origin of magnetic moment, magnetic susceptibility, Total angular momentum | 1,2,3 | Chalk and Board |
| Week 4 | Diamagnetism, Paramagnetism, Ferromangnetism, Domain theory of Ferromagnetism, hysteresis loss, numerical, | 1,2,3 | Chalk and Board |
| Week 5 | Introduction to Superconductors and its properties, types of it | 1,2,4 | PPT and chalk- board |
| | | | |
| Week 6 | Numerical practice, Test | 1,2,4 | Chalk and board |
| Week 7 | Types-I , II superconductor, BCS theory and introduction to Sound wave | 1,2,4 | Ppt and chalk and board |
| Week 8 | Audible sound and its characteristics, factor affecting and ultrasound | 1,2,4 | Ppt and chalk- board |
| Week 9 | Introduction to subject, M-1 : Introduction, Black body radiation and laws if Black body radiation, De-Broglie theorem, Uncertainty principle; Schrodinger's wave equation | 1,2,5 | PPt, chalk and board |
| Week 10 | Born interpretation, probability current; Solution of stationary- state, Schrodinger equation for one dimensional problems- particle in a box, Numerical practice | 1,2,5 | PPt, chalk and board |
| Week 11 | Types of electronic materials: metals, semiconductors, and insulators, Density of states, Occupation probability, Fermi level, Effective mass., Intrinsic | 1,2,5 | Chalk and board |

| | | Ŭ | |
|---------|---|-------|--------------------------------|
| | and extrinsic semiconductors, Dependence of Fermi level on carrier-concentration and temperature (equilibrium carrier statistics), | | |
| Week 12 | Carrier generation and recombination, Carrier transport: diffusion and drift, p- n junction diode & Numericals, Unit test-1 | 1,2,5 | Chalk and board |
| Week 13 | M-1: Wave front, Huygens' principle, superposition of waves and interference of light by wave front splitting and amplitude splitting, Young's double slit experiment, Newton's rings, Numerical, test II | 1,2,6 | PPTs and Chalk and board |
| Week 14 | Farunhofer diffraction from a single slit, the Rayleigh criterion for limit of resolution and its application to vision;, Diffraction gratings and their resolving power, Michelson interferometer, numerical | 1,2,6 | PPTs and Chalk and Board |
| Week 15 | M-2: Einstein's theory of matter radiation interaction and A and B coefficients; Amplification of light by population inversion, Properties of laser beams: mono-chromaticity, coherence, directionality and brightness; Different types of lasers: gas lasers (He-Ne), solid-state lasers (Neodymium); | 1,2,6 | PPTs |
| Week 16 | Applications of lasers in science, engineering and medicine., Numerical problems | 1,2,6 | PPTs |
| Week 17 | Revision | 1-6 | РРТ |

PROGRAM MAP for Bachelor of Engineering (Institute of Sciences, Humanities and Liberal Studies)

| | | Subjec | t Mind M | apping | | |
|----|-------|---------|----------|---------|---------|---------|
| Se | meste | Semeste | Semeste | Semeste | Semeste | Semeste |





To be used for the following Branches: Automobile Engineering



Name of Institute: Indus Institute of Sciences, Humanities and Liberal Studies Name of Faculty: Department of Languages (English)

Course code: EN0211 Course name: Business Communication and Presentation Skills Pre-requisites: NA Credit points: 03 Offered Semester: 02

Course Coordinator (weeks 12)

Full Name: Dr Mamta Pillai, Assistant Professor & Head, Department of Languages Department with siting location: Computer Lab, Ground Floor, Main Building Telephone: 9924241816

Email: mamtapillai.gd@indusuni.ac.in

Course Lecturer (weeks 12)

Full name: Ms. Pranjal Bhatt/ Ms. Foram Patel/Ms. Nidhi Singh Department with siting location: Equinox Lab, Grd Floor (MB) Telephone: 9429296329/9537384053/8160976525 Email: pranjalbhatt.gd@indusuni.ac.in/forampatel.ishls@indusuni.ac.in/nidhisingh.ishls@indusuni

pranjalbhatt.gd@indusuni.ac.in/forampatel.ishls@indusuni.ac.in/nidhisingh.ishls@indusuni .ac.in

Consultation times: 4 to 5PM from Monday to Friday

Students will be contacted throughout the Session via Mail with important information relating to this Course.

Course Objectives

By participating in and understanding all facets of this Course a student will:

- 1. To gain the knowledge of the various subjects with the distinctive, integrative skills and abilities such that students attain various skills to formulate, solve and analyze engineering problems and become quality graduate engineers.
- 2. To develop abilities of life-long learning, effective communication skills, individual & team work for having competence in multidisciplinary approach to relate engineering issues to broader social and human context.
- 3. To develop the understanding of ethics, professionalism, safety and sustainability that makes them leaders & contributors to the society.
- 4. To develop basic writing skills.
- 5. To utilize the technical skills necessary for reading and writing.
- 6. To be able to communication skills in both technical and professional contexts



Course Outcomes (CO):

CO 1: To enable student understanding of appropriate communication styles according to the social, business, professional and educational situations. [BT-2]

CO 2: To express, verbally and in written, analysis of topics related to engineering and other allied fields. [BT-2]

CO 3: To analyze a given situation and illustrate the situation through depiction in the written format using English Language Skills. [BT-3]

CO 4: To support ideas through logical development of arguments in the written form through the use of essays and letter writing. [BT-5]

CO 5: To prepare documents related to professional employability. [BT-6]

CO 6: To design visually appealing and theoretical sound presentations as a medium of corporate communication. [BT-6]

Course Outline

(Key in topics to be dealt)

- 1. Business Communication skills
- 2. Presentation Skills
- 3. Basic paragraph Development and maintaining coherence
- 4. Reading Skills

Method of delivery

- 1. Communicative Language Teaching (Learner Centric)
- 2. Face to face lectures
- 3. Task Based Language Learning
- 4. The Lexical Approach

Study time

03 Hours

| | map | Jing (i | 0.11 | Jyram | Outee | mesj | | - | | | | |
|-----|-----|---------|------|-------|-------|------|-------------|-----|-----|------|------|------|
| | P01 | PO2 | PO3 | PO4 | P05 | P06 | PO 7 | P08 | PO9 | PO10 | PO11 | PO12 |
| CO1 | - | 1 | 1 | 1 | 2 | 1 | - | 1 | 2 | 3 | - | 2 |
| CO2 | - | 2 | 1 | 1 | 1 | 1 | - | 1 | 3 | 3 | 1 | 2 |
| CO3 | - | 3 | 1 | 1 | 2 | 1 | - | 2 | 3 | 3 | 1 | 2 |

CO-PO Mapping (PO: Program Outcomes)

1-Lightly Mapped 2- Moderately Mapped 3- Highl

3- Highly Mapped



Blooms Taxonomy and Knowledge retention (For reference)

(Blooms taxonomy has been given for reference)



Graduate Qualities and Capabilities covered

(Qualities graduates harness crediting this Course)

| General Graduate Qualities | Specific Department ofGraduate Capabilities |
|---|---|
| Informed Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how to apply this knowledge. Understand how an area of study has developed and how it relates to other areas. | 1 Professional knowledge, grounding & awareness |
| Independent learners Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. | 2 Information literacy, gathering & processing |



| Acknowledge the work and ideas of others. | |
|---|------------------------------------|
| Problem solvers Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement decisions. Be flexible, thorough, innovative and aim for high standards. | 4 Problem solving skills |
| Effective communicators | 5 Writton communication |
| | 5 Whiteh communication |
| Articulate ideas and convey them | 6 Oral communication |
| Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication. | 6 Oral communication 7 Teamwork |

Practical work: NIL

(Mention what practical work this Course involves)

Lecture/tutorial times

(Give lecture times in the format below)

(1Hour theory and 2Hours practical per week) As per the Master Time-Table of FY B. Tech Year -2021

Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tutorials, seminars and practical work as stipulated in the Course outline. Minimum attendance requirement as per university norms is compulsory for being eligible for mid and end semester examinations.



Details of referencing system to be used in written work NIL

Text books

NIL

Additional Materials

- Fred Luthans, Organizational Behaviour, McGraw Hill
- Lesikar and petit, Report writing for Business
- M. Ashraf Rizvi, Effective Technical Communication, McGraw Hill
- Wallace and masters, Personal Development for Life and Work, Thomson Learning
- Hartman Lemay, Presentation Success, Thomson Learning
- Malcolm Goodale, Professional Presentations
- Farhathullah, T. M. Communication skills for Technical Students
- Michael Muckian, John Woods, The Business letters Handbook
- Herta A. Murphy, Effective Business Communication
- Lehman, Dufrene, Sinha BCOM, Cengage Learning

ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

Internal Evaluation Criteria:

| Mid Semester Exam(MSE) | 40 marks |
|---|----------|
| Attendance | 05 (80%) |
| Simulation Tasks | 15 Marks |
| External Evaluation Criteria: End Semester Exam(ESE) | 40 marks |

SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in mid semester or end semester will be considered for supplementary assessment in the respective components (i.e mid semester or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (mid semester or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

Practical Work Report/Laboratory Report:

A report on the practical work is due the subsequent week after completion of the class by each group.



Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.

Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

Plagiarism - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

Do not copy the work of other students. Do not share your work with other students (except where required for a group activity or assessment)



.

Course schedule (subject to change) (Mention quiz, assignment submission, breaks etc as well in the table under the Teaching Learning Activity Column)

| Week # | Topic & contents | CO Addressed | Teaching Learning Activity (TLA) |
|---------|--|--------------|--|
| Weeks 1 | Introduction & Communicative Activity | 1 | Discussion |
| Weeks 2 | Presentation Skills | 3 | Lecture |
| Week 3 | Business Communication | | Lecture |
| Week 4 | Organizational Behavior | 2 | Discussion |
| Week 5 | Developing Paragraph | 2 | Writing Pair Task |
| | | | |
| Week 6 | Understanding Topic sentence, Unity and Coherence | 1 | Handouts |
| Week 7 | Writing Letters | 1 | Writing Exercises |
| Week 8 | Writing Emails | 1 | Writing Exercises |
| Week 9 | Contrastive and Comparative Essays | 1 | Writing Exercises |
| Week 10 | Presentation Seminar | 2 | Group Activity |
| Week 11 | Presentation Seminar | 2 | Group Activity |
| Week 12 | Declamation | 2 | Public Speaking |



Syllabus Document

| | Subject: Business Communication & Presentation Skills | | | | | | | | |
|---|---|-----------|---------|-------------|----------------|---------------|------------|-------|--|
| Program: B.Tech. All Branches Subject Code: EN0211 Semester: II | | | | | | | | | |
| | | | | | | | | | |
| | Teaching | Scheme | | Ex | amination Eval | luation Schen | ne | | |
| | | | | University | University | Continuous | Continuous | Total | |
| | | | | Theory | Practical | Internal | Internal | | |
| | | | | Examination | Examination | Evaluation | Evaluation | | |
| | | | | | | (CIE)- | (CIE)- | | |
| Lecture | Tutorial | Practical | Credits | | | Theory | Practical | | |
| 1 | 2 | 0 | 3 | 40 | 0 | 60 | 0 | 100 | |

Course Objectives:

- To orient students about the varied uses of business communication.
- Under the importance of personality and its reflection in communication.
- Train students to develop business correspondence in writing and presentation skills.

COURSE CONTENT

Unit 1: Business Communication

- Business Communication- Importance
- Information Age and Communication/Social Media
- Organizational Communication for Engineers
- Common Barriers in Professional Communication/Role Play
- Organizational Etiquettes

Unit 2: Presentation Skills

- Planning, Preparing and Practice
- Audience Interaction
- Importance of AV Aids
- Best Presentation Videos
- Group Presentations/Pair Presentations/Teacher Review
- Group Presentations/Pair Presentations/ Peer Review

Unit 3: Writing Skills

- Mind-mapping and Planning
- Paragraph Development with 7 c's
- Picture Elicitation



- Contrastive and Comparative Essays
- Completing a Story and Describing Situations

Unit 4: Writing Skills II

- Composing Drafts
- Letters / Good, Bad & Neutral Messages
- Emails/ Sample Analysis
- Creating a Blog

Reference Books:

- Fred Luthans, Organizational Behaviour, McGraw Hill
- Lesikar and petit, Report writing for Business
- M. Ashraf Rizvi, Effective Technical Communication, McGraw Hill
- Wallace and masters, Personal Development for Life and Work, Thomson Learning
- Hartman Lemay, Presentation Success, Thomson Learning
- Malcolm Goodale, Professional Presentations
- Farhathullah, T. M. Communication skills for Technical Students
- Michael Muckian, John Woods, The Business letters Handbook
- Herta A. Murphy, Effective Business Communication
- Lehman, Dufrene, Sinha BCOM, Cengage Learning

Web resources/ MOOCs:

- Business Conversation Rule 1 :<u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Business English Conversations Rule 2: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Business English Conversations 3: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Business English Conversations Rule 4: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Business English Conversations Rule 5: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- English Presentation Video: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Powerful Presentation Skills: Body Language: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Make Body Language Your Superpower: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>
- Make a Presentation Like Steve Jobs: <u>https://www.youtube.com/watch?v=wB8mr4iViy0</u>



Name of Institute: INDUS INSTITUTE OF TECHNOLOGY & ENGINEERING Prof. Zankar Yadav Name of Faculty:

Course code: ME0112 Course name: Workshop Practice Pre-requisites: Basic Engineering Principles Credit points: 02 Offered Semester: 1st

Course Coordinator (weeks 14 - 16)

Full Name: Prof. Zankar Yadav Department with sitting location: Ground Floor, Mechanical Workshop, IITE Telephone: 8511225519 Email: zankarvyadav.me@indusuni.ac.in Consultation times: 09.00 AM – 11.00 AM (Working Saturdays), 04:15 PM 05:00 PM (Monday to Friday)

Students will be contacted throughout the Session via Mail with important information relating to this Course.

Course Objectives

By participating in and understanding all facets of this Course a student will:

- 1. Recognize the importance of Workshop in today's technology and its impacts on market competition.
- Understand basic of various methodologies to manufacture components/structure.
- 3. Understand different tools and equipments used in mechanical workshop.
- 4. Analyze the engineering and economical aspects of workshop practices.

Course Outcomes (CO)

After learning the course, the students should be able to:

- 1. Prepare basic joints used in carpentry.
- 2. Prepare edges for better joint for fitting.
- 3. Prepare better joint for welding.
- 4. Prepare various shapes and objects by using Carpentry, Fitting, and Welding.

Course Outline

1 Introduction to Mechanical Workshop

Introduction, Safety rules in Mechanical workshop, Safety slogans, Tools and Equipment used for safety in Mechanical workshop.

2 Workshop Lavout

Introduction, Types of layouts, Rules and regulations for Workshop layouts and Preparation of actual layout.

3 Fitting Shop



Introduction, Classification and characteristics of Engineering Materials, Tools and Equipment for Fitting shop, Different operations, preparation of job in Fitting shop.

4 Carpentry Shop

Introduction, Wooden Materials, Tools and Equipment for Carpentry shop, Different operations, preparation of job in Carpentry shop.

Method of delivery

Face to face lectures, self study material, PPT, Web Resources

Study time

4 hours/Week

| | PO 1 | РО 2 | РО 3 | РО 4 | РО 5 | РО 6 | РО 7 | PO 8 | РО 9 | PO1 0 | PO1 1 | PO1 2 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| CO 1 | 3 | 1 | 1 | 1 | 3 | - | - | - | - | - | 1 | 1 |
| CO 2 | 3 | 2 | 3 | 1 | 3 | - | - | - | - | - | - | - |
| CO 3 | 3 | 2 | 2 | 2 | 3 | - | - | - | - | - | - | - |

CO-PO Mapping (PO: Program Outcomes)

Blooms Taxonomyand Knowledge retention(For reference)

(Blooms taxonomy has been given for reference)



Figure 1: Blooms Taxonomy





Graduate Qualities and Capabilities covered (Qualities graduates harness crediting this Course)

| | and Markin or di |
|--|-------------------------------|
| | |
| | |
| Responsible | 10 Sustainability, societal & |
| Understand how decisions can affect | environmental impact |
| others and make ethically informed | |
| choices. Appreciate and respect | |
| diversity. Act with integrity as part of | |
| local, national, global and professional | |
| communities. | |

नानेन प्रकाशने जगत

Practical work:

1. To study about safety rules in Mechanical Workshop.

2. To study about Workshop layout and preparation of actual layout of Mechanical Workshop.

- 3. To study about Fitting shop and preparation of job.
- 4. To study about Carpentry shop and preparation of job.
- 5. To study about Tin Smithy shop and preparation of job.

Lecture/tutorial times

Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tutorials, seminars and practical work as stipulated in the course outline. Minimum attendance requirement as per university norms is compulsory for being eligible for semester examinations.

Details of referencing system to be used in written work

PPTs, Lecture Notes/E-book, Web-Resources.

Text books

1. Elements of Mechanical Engineering - Hajra Choudhury & others, Media Promoters 2010 .

2. The Elements of Workshop Technology - Volume I & II, S.K. Hajra choudhury, A.K. Hajra Choudhury, Nirjhar Roy, 11th edition 2001 others, Media Promoters and Publishers, Mumbai.



ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

| 10 Marks | Attendance & Lab Participation |
|----------|---|
| 10 Marks | File work/ Journal write up - calculation etc. in lab. itself |
| 10 Marks | Fitting job |
| 10 Marks | Carpentry job |
| 10 Marks | Tin smithy job |
| 10 Marks | Question Answer |

SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in internalcomponent or less than 40% in the end semester will be considered for supplementary assessment in the respective components (i.e internal component or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (internal component or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.

Practical Work Report/Laboratory Report:

A report on the practical work is due the subsequent week after completion of the class by each group.

Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.

Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.



Plagiarism - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

Do not copy the work of other students. Do not share your work with other students (except where required for a group activity or assessment)

B.TECH MECHANICAL ENGINEERING (2019)





Name of Institute: Indus Institute of Technology & Engineering Name of Faculty: Dr. Gaurav Kumar Ameta

Course code: CE0216 Course name: Programming for Problem Solving

Pre-requisites: -Student must have basic understanding of Computer Programming Terminology and Mathematics.

Credit points: 4

Offered Semester: II – All Branches

Course coordinator

Full name: Dr. Gaurav Kumar Ameta Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 9413664420 Email: <u>gauravameta.ce@indusuni.ac.in</u> Consultation times: **Thursday: 3:00 PM to 4:00 PM**

Course lecturer

Full name: Dr. Gaurav Kumar Ameta Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 9413664420 Email: <u>gauravameta.ce@indusuni.ac.in</u> Consultation times: **Thursday: 03:00 PM to 04:00 PM**

Full name: Roshni Patel Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 8511109249 Email: <u>roshnipatel.ce@indusuni.ac.in</u> Consultation times: **Friday: 03:00 PM to 04:00 PM**

Full name: Hiren Mer Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 9227885688 Email: <u>hirenmer.ce@indusuni.ac.in</u> Consultation times: **Monday: 03:00PM to 04:00 PM**



Full name: Naiswita Parmar Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 9704788141 Email: <u>naiswitaparmar.ce@indusuni.ac.in</u> Consultation times: **Friday: 03:00PM to 4:00 PM**

Full name: Bhumi Shah Department with sitting location: Bhawar Building, 3rd Floor Telephone: +91 9904405917 Email: <u>bhumishah.ce@indusuni.ac.in</u> Consultation times: **Thursday: 03:00PM to 4:00 PM**

Full name: Pruthvi Patel Department with sitting location: Bhawar Building, 4th Floor Telephone: +91 8866311132 Email: <u>pruthvipatel.ce@indusuni.ac.in</u> Consultation times: Wednesday: 03:00PM to 4:00 PM

Full name: Aakansha Saxena Department with sitting location: Bhawar Building, 3rd Floor Telephone: +91 8690868987 Email: <u>aakanshasaxena.ce@indusuni.ac.in</u> Consultation times: **Friday: 03:00PM to 4:00 PM**

Students will be contacted throughout the session via mail with important information relating to this course.

Course Objectives

- 1) To familiarize the student with basic concepts of computer programming and developer tools.
- 2) To describe the parts of the computer system.
- 3) To describe functioning of computer components.
- 4) To describe the process of problem-solving using computer.
- 5) To describe the design an algorithmic solution for a given problem.
- 6) To describe writing method for maintainable 'C' program for a given algorithm.
- 7) To describe the importance of 'C' program for simple applications of real-life using structures and files.
- 8) The students will be able to enhance their analyzing and problem-solving skills and use the same for writing programs in 'C'.

Course Outcomes (CO)

By participating in and understanding all facets of this course a student will be able to:

- i. *Gain* a broad perspective about the usage of computers in engineering industry.
- ii. *Develop* basic understanding of computer programs, concept of algorithm and algorithmic thinking.

CE0216, Programming for Problem Solving, Semester: II - 2021



- iii. Develop the ability to analyze a problem and write an algorithm and program to solve it.
- iv. *Develop* logical thinking ability and applying basic programming principles using 'C' language.
- v. *Development* of different 'C' programming features and structures in order to solve different problems considering as an initial step towards software development.
- vi. *Apply* fundamental principles of problem solving in software engineering through various programming languages.

Course Outline

| UNIT-I | [12 hours] | | | |
|---|------------------------------|--|--|--|
| Introduction to Programming | | | | |
| What is programming? Problem solving methods with Examples-Algor | ithm and Flowchart, Types | | | |
| Introduction to 'C' | | | | |
| | | | | |
| Introduction, Importance of C, Sample C programs, Basic structure of | C programs, Programming | | | |
| style, executing a C program. | | | | |
| Introduction, Character Set, C tokens, Keywords and Identifiers, Const Declaration of Variables, Defining symbolic constants | ants, variables, Data types, | | | |
| Or constants | | | | |
| Operators and Expression | | | | |
| Introduction, Arithmetic of Operators, Relational Operators, Logic | cal Operators, Assignment | | | |
| Operators, Increment and Decrement Operators, Conditional Operators, | Bitwise Operators, Special | | | |
| Uperators, Arithmetic Expressions, Evaluation of expressions, Precedence | e of arithmetic operators, | | | |
| Type conversions in expressions, Mathematical function. | [12] [| | | |
| | [12 nours] | | | |
| Decision Making Statements | | | | |
| Introduction, Decision making with IF statement, Simple IF statement, the IF ELSE statement, | | | | |
| Nesting of IF ELSE statements, The ELSE IF ladder, The switch | statement, the turnery (? :) | | | |
| Operator, the GOTO statement. | | | | |
| Looping | | | | |
| WHILE statement, the DO statement, The FOR statement, Jumps in loop | s Break and continue. | | | |
| Array & Handling of Character strings | | | | |
| Introduction, One-dimensional arrays, Two-dimensional arrays, Initializa | tion of two-dimensional | | | |
| arrays, Concept of Multidimensional arrays | | | | |
| | | | | |
| UNIT-III | [12 hours] | | | |
| Handling of Character String | | | | |
| Introduction, Declaring and initializing string variables, reading string fr | om terminal, writing string | | | |
| to screen, Arithmetic operations on characters, Putting string together, | , String Operations: String | | | |
| Copy, String Compare, String Concatenation and String Length, String Handling functions, Table | | | | |
| of strings. | | | | |
| User-Defined Functions | | | | |
| Introduction, need for user-defined functions, return values and their | types, calling a function, | | | |
| category of functions, no arguments and no return values, Arguments w | ith return values, Handling | | | |
| of non-integer functions, Nesting of functions, Recursion, Functions v | with arrays, The scope and | | | |
| Lifetime of variables in functions. | | | | |



UNIT-IV

Pointers

Introduction, understanding pointers, Accessing the address of variable, Declaring and initializing pointers, accessing a variable through its pointer, Pointer expressions, Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and Structures.

Structures and Unions

Introduction, Structure definition, Giving values to members, Structure initialization, Comparison of structures, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions.

File Handling

Introduction, Defining and opening File, Closing File, Input/output operations on Files.



Method of delivery

Chalk and Board, Power Point presentation, Online Lectures

Study time

3 hours Theory, 2 hours Practical

CO-PO Mapping (PO: Program Outcomes)

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|
| CO1 | 2 | - | - | - | - | 2 | 2 | - | - | 1 | - | 3 |
| CO2 | 3 | 3 | 1 | - | - | - | - | - | - | - | - | 3 |
| CO3 | 1 | 3 | 3 | 1 | 2 | 1 | - | - | - | 2 | 1 | 3 |
| CO4 | 2 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 2 |
| CO5 | 3 | 3 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 3 |
| CO6 | 3 | 2 | 3 | 3 | 2 | 1 | 3 | - | 2 | 2 | 1 | 3 |

Blooms Taxonomy and Knowledge retention (For reference)

(Blooms taxonomy has been given for reference)





Graduate Qualities and Capabilities covered

(Qualities graduates harness crediting this Course)

| General Graduate Qualities | Department of Computer Engineering Graduate Capabilities |
|--|---|
| Informed Have a sound knowledge of an area of study or profession and understand its current issues, locally and internationally. Know how to apply this knowledge. Understand how an area of study has developed and how it relates to other areas. | 1 Professional knowledge, grounding & awareness |
| Independent learners Engage with new ideas and ways of thinking and critically analyze issues. Seek to extend knowledge through ongoing research, enquiry and reflection. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others. | 2 Information literacy, gathering & processing |
| Problem solvers Take on challenges and opportunities. Apply creative, logical and critical thinking skills to respond effectively. Make and implement decisions. Be flexible, thorough, innovative and aim for high standards. | 4 Problem solving skills |
| Effective communicators Articulate ideas and convey them effectively using a range of media. Work collaboratively and engage with people in different settings. Recognize how culture can shape communication. | 5 Written communication6 Oral Communication7 Teamwork |
| Responsible Understand how decisions can affect others and make ethically informed choices. Appreciate and respect diversity. Act with integrity as part of local, national, global and professional communities. | 10 Sustainability, societal & environmental impact |



Practical work:

| UNIT | TOPIC | DEFINITION | HOURS | | | | | | |
|------|--|--|-------|--|--|--|--|--|--|
| Ι | Using in | nput and output statements, Operators | 4 | | | | | | |
| | 1 | Write a program to print the address of INDUS. | | | | | | | |
| | 2 | Write a program to perform basic arithmetic operators on given two numbers. | | | | | | | |
| | 3 | Find the area and perimeter of square and rectangle and circle. Input the side(s) through the keyboard. (use PIE as symbolic constant) | | | | | | | |
| | 4 | Write a program to swap values of 2 variables (i) with extra variable and (ii) without using an extra variable. | | | | | | | |
| | 5 Write a program to print the ASCII value of a given character. | | | | | | | | |
| | 6 | Write a program to enter the integer number and convert it into Rs and Paisa. | | | | | | | |
| | 7 | Write a program to enter two numbers. Make the comparison between them with conditional operator. If the first number is greater than | | | | | | | |
| | second perform multiplication otherwise division operation. | | | | | | | | |
| | 0 | write a program to enter the temperature in Fahrenheit and convert it to Celsius.[C = $((F-32)*5)/9$] | | | | | | | |
| | 9 | Write a program to calculate simple interest. | | | | | | | |
| | 10 | Write a program to enter marks of five subject of a student and | | | | | | | |
| TT | Using | calculate its average, percentage. | 1 | | | | | | |
| 11 | | Write a program to find the maximum of (i) two integer values and (ii) | 4 | | | | | | |
| | 1 | three integer values. | | | | | | | |
| | 2 | Write a program to check whether the given character is a vowel of not. | | | | | | | |
| | 3 | Write a program that reads a number from 1 to 7 and accordingly it should display MONDAY to SUNDAY (if- else if). | | | | | | | |
| | 4 | Write a menu driven program to perform the arithmetic operations. | | | | | | | |
| | 5 | Write a program to print number of days in a given month using | | | | | | | |
| | | switch statement. The program requires month number (between 1 | | | | | | | |
| | | to 12) as an input and then displays number of days in that month. | | | | | | | |
| | 6 | Write a program to check whether a given value is even or odd. | | | | | | | |
| | 7 | Write a program to calculate total salary of an employee. | | | | | | | |



| | | total salary = basic + da + hra + ta. $da = 50\%$ of basic. | |
|-----|---------------------|---|---|
| | | <u>Basic hra ta</u> | |
| | | <6000 400 100 | |
| | | 6001>= &<10000 1400 300 | |
| TT | T T • | >=10000 2400 700 | |
| 111 | Using c | ontrol statements | 5 |
| | 1 | Write a program to print 1 to 10 numbers using while loop. | |
| | 2 | Write a program to read any 7 numbers and print the average value | |
| | - | using for loop | |
| | 3 | Write a program to reverse a given integer number | |
| | 4 | Write a program to print Fibonacci series of given number. | |
| | 5 | Write a program to find factorial of a number. | |
| | 6 | Write a program to check whether a number is a Krishnamurthy | |
| | 0 | number or not. Krishnamurthy number is one whose sum of | |
| | | factorial of digits equals the number. Example: 145 1! + 4!+ | |
| | | 5! = 1 + 24 + 120 = 145 | |
| | 7 | Write a program to check whether the number is Armstrong or not. | |
| | | Example: $1531^3 + 5^3 + 3^3 = 1 + 125 + 27 153$ | |
| | 8 | Write a program to list all prime numbers within given range. | |
| | - | | |
| | 9 | Write a program to draw following patterns: | |
| | | * 1 54321 A | |
| | | ** a b 4 3 2 1 A B | |
| | | *** 123 321 ABC | |
| | | **** abcd 21 ABCD | |
| | | ***** 12345 1 ABCDE | |
| | | | |
| | | | |
| | | 121 01 | |
| | | | |
| | | 1234321 0101 | |
| IN/ | Amore | And Stuings | 6 |
| 1 | | Write a program to read 10 integens in an arrow. Find the addition of | 0 |
| | 1 | all elements. | |
| | 2 | Write a program to find number of odd and even elements from the 1- | |
| | 2 | D array. | |
| | 3 | Write a program to reverse the elements of array and store it in another array. | |
| | 4 | Write a program to sort elements of array. | |
| | 5 | Write a Program to print Addition of two matrices. | |
| | 6 | Program to remove duplicate numbers from a list of numbers and print | |
| | | the list without duplicate numbers. | |
| | 7 | Write a Program to print Multiplication of two matrices. | |
| | 8 | Read the marks of five subjects obtained by five students in an | |
| | | examination. Display the top two student's codes and their marks. | |
| | 9 | Write a program to insert an element in an array at specified position. | |
| | 10 | Write a program to find the length of a string. | |
| | 11 | Write a program to reverse the string.(without inbuilt Function) | |



| | 12 | Write a program to convert a string in to lower case and upper case. | | |
|-----|---------|---|---|--|
| | 13 | Write a menu driven program for the implementation of all build-in | | |
| | | string functions. | | |
| | 14 | Program to extract n characters starting from m in a given string. | | |
| | | (String, n and m should be provided as inputs). | | |
| | 15 | Find out occurrence of each character in a given string. | | |
| V | Structu | re & Union | | |
| | 1 | Write a program to define structure with tag state with fields state | | |
| | | name, number of districts and total population. Read and display | | |
| | | the data. | | |
| | 2 | Write a program to create a structure of 5 student's roll_no and | | |
| | 2 | name and display the records. Use array of structure | | |
| | 3 | Write a program to create structure of bank with accno, | | |
| | | holder_name and balance and display them for n holders whose | | |
| | 4 | Write a measure to smooth union of student's nelling and nome and | | |
| | 4 | display the records | | |
| VI | Pointor | asplay the records. | 8 | |
| V I | 1 | Write a program that demonstrates the use of address of (k) and | 0 | |
| | 1 | pointer (*) operator. | | |
| | 2 | Write a program to read and display values of an integer array. | | |
| | | Allocate space dynamically for the array. | | |
| | 3 | Write a program to display the content of 1-D array using pointer. | | |
| | 4 | Write a program to sum given two integer numbers using function. | | |
| | 5 | Write a program using function to count the area of circle, triangle, | | |
| | | rectangle and square. | | |
| | 6 | Write a program using user defined function even _odd. With | | |
| | | argument and check whether the no is even or odd. | | |
| | - | | | |
| | 7 | Write a program using function with array, takes input of five | | |
| | 0 | subject's marks and count the percentage and display result. | | |
| | 8 | Write a function which accepts a character array as argument from | | |
| | | into uppercase case | | |
| | 0 | Write a function using pointer parameter that calculate manimum | | |
| | 9 | element from given array of integer number | | |
| | 10 | Write a program that demonstrates call by value and call by | | |
| | 10 | reference concept in function argument | | |
| | | reference concept in function argument. | | |

Lecture/ Tutorial times

| Lecture | |
|------------------|--------------------------|
| Monday (CSE-A) | 10.00AM -11.00AM (LH-28) |
| Monday (CE-A) | 02:00PM-03:00PM (LH-13) |
| Tuesday (CSE-A) | 10.00AM -11.00AM (LH-28) |
| Wednesday (CE-A) | 09:00AM-10:00AM (LH-13) |
| Thursday (CSE-A) | 11:10AM-12:10AM (LH-28) |
| Friday (CE-A) | 11:10AM-12:10AM (LH-13) |
| | |



Attendance Requirements

The University norms states that it is the responsibility of students to attend all lectures, tutorials, seminars and practical work as stipulated in the course outline. Minimum attendance requirement as per university norms is compulsory for being eligible for semester examinations.

Text books

1. Programming in ANSI C by Balagurusamy, publisher: TMH

Reference Books:

- 1. Introduction to C by Reema Thareja, Publisher-Oxford
- 2. Programming with ANSI and Turbo C, by Ashok N Kamthane, Publisher Pearson Education.
- **3.** Let us C, by Yashwant Kanetkar, Publisher BPB Publication

Additional Materials

Web Resource http://nptel.ac.in/courses/106105085/2https://onlinec ourses.nptel.ac.in/iitk_cs_101/preview https://onlinecourses.nptel.ac.in/noc15_cs15/preview

ASSESSMENT GUIDELINES

Your final course mark will be calculated from the following:

| CIE-Theory (60 Marks) | CIE-Practical (60 Marks) |
|----------------------------------|--------------------------------------|
| Class Regularity – 5 Marks | Practical Performance + Regularity – |
| Mid Sem- 40 Marks | 20 Marks |
| Assignments/Quiz/Viva - 15 Marks | Practical Test - 20 Marks |
| | Practical File & Viva - 20 |
| | Marks |
| ESE-Theory- 40 Marks | ESE-Practical-40 Marks |
| Total: 200 Marks | |

SUPPLEMENTARY ASSESSMENT

Students who receive an overall mark less than 40% in internal component or less than 40% in the end semester will be considered for supplementary assessment in the respective components (i.e internal component or end semester) of semester concerned. Students must make themselves available during the supplementary examination period to take up the respective components (internal component or end semester) and need to obtain the required minimum 40% marks to clear the concerned components.



Practical Work Report/Laboratory Report:

A report on the practical work is due the subsequent week after completion of the class by each group.

Late Work

Late assignments will not be accepted without supporting documentation. Late submission of the reports will result in a deduction of -% of the maximum mark per calendar day

Format

All assignments must be presented in a neat, legible format with all information sources correctly referenced. Assignment material handed in throughout the session that is not neat and legible will not be marked and will be returned to the student.

Retention of Written Work

Written assessment work will be retained by the Course coordinator/lecturer for two weeks after marking to be collected by the students.

University and Faculty Policies

Students should make themselves aware of the University and/or Faculty Policies regarding plagiarism, special consideration, supplementary examinations and other educational issues and student matters.

Plagiarism - Plagiarism is not acceptable and may result in the imposition of severe penalties. Plagiarism is the use of another person's work, or idea, as if it is his or her own - if you have any doubts at all on what constitutes plagiarism, please consult your Course coordinator or lecturer. Plagiarism will be penalized severely.

Do not copy the work of other students.

Do not share your work with other students (except where required for a group activity or assessment.

Course schedule (subject to change)

(Mention quiz, assignment submission, breaks etc as well in the table under the Teaching Learning Activity Column)

| Week | Topic & Contents | CO Addressed | Teaching Learning |
|------|---|--------------|--|
| No | | | Activity |
| 1 | Introduction to Programming : What is programming? Problem solving methods with Examples-Algorithm and Flowchart, Types of Programming languages, Characteristics of higher level language, Some Programming languages | 1,2,3 | Chalk & Board/Power Point Presentation/Quiz |
| 2 | Introduction to 'C' : Importance of C, Sample C programs, Basic structure of C programs, Programming style, executing a C program. | 2,3 | Chalk & Board/Power Point Presentation |
| 3 | Introduction, Character Set, C tokens, Keywords and Identifiers, Constants, Variables, Data types, Declaration of Variables, Defining symbolic constants | 2,3 | Chalk & Board/Power Point Presentation |

| 4 | Operators and Expression: Arithmetic of Operators, Relational Operators, Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of expressions, Precedence of arithmetic operators, Type conversions in expressions, Mathematical function | 3,4 | Chalk & Board/Power Point Presentation/Assignment | |
|----|--|-------|---|--|
| 5 | Decision Making Statements: Introduction, Decision making with IF statement, Simple IF statement, the IF ELSE statement, Nesting of IF ELSE statements | 3,4,5 | Chalk & Board/Power Point Presentation | |
| 6 | The ELSE IF ladder, The switch statement, the turnery (? :) Operator, the GOTO statement | 3,4,5 | Chalk & Board/Power Point Presentation | |
| 7 | Looping: WHILE statement, the DO statement, The FOR statement, Jumps in loops Break and continue | 4,5 | Chalk & Board/Power Point Presentation/Program based exercises | |
| 8 | Array & Handling of Character strings: Introduction, One-dimensional arrays, Two- dimensional arrays, Multidimensional Arrays | 4,5 | Chalk & Board/Power Point Presentation | |
| 9 | Handling of Character strings: Introduction, Declaring and initializing string variables, reading string from terminal, writing string to screen, Arithmetic operations on characters, Putting string together, | 4,5 | Chalk & Board/Power Point Presentation | |
| 10 | String Operations: String Copy, String Compare, String Concatenation and String Length, String Handling functions, Table of strings | 4,5 | Chalk & Board/Power Point Presentation | |
| 11 | User-Defined Functions: Introduction, need for user-defined functions, return values and their types, calling a function, category of functions, no arguments and no return values, Arguments with return values | 4,5 | Chalk & Board/Power Point Presentation/Assignment | |
| 12 | Handling of non-integer functions, Nesting of functions, Recursion, Functions with arrays, The scope and Lifetime of variables in functions | 4,5 | Chalk & Board/Power Point Presentation | |
| 13 | Pointers: Introduction, understanding pointers, Accessing the address of variable, Declaring and initializing pointers, Accessing a variable through its pointer, Pointer expressions | 4,5,6 | Chalk & Board/Power Point Presentation | |
| 14 | Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and structures | 4,5,6 | Chalk & Board/Power Point Presentation | |
| 15 | Structures and Unions: Introduction, Structure definition, Giving values to members, Structure initialization, Comparison of structures, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions | 4,5,6 | Chalk & Board/Power Point Presentation | |
| 16 | File Handling: Introduction, Defining and opening File, Closing File, Input/output operations on Files | 4,5,6 | Chalk & Board/Power Point Presentation | |

ज्ञानेन प्रकाशते जगत् INDUS





