

INDUS UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

Departmental Vision:

The department of Computer Applications aims to generate groomed, technically competent and skilled intellectual professionals to meet the current challenges of the modern computing industry with greater social impact.

Departmental Mission:

The missions of department are:

M1: To offer high-grade, value-based Graduate and Post-graduate program in the field of Computer Applications.

M2: To provide conducive environment so as to achieve excellence in teaching-learning, research and development activities.

M3: To facilitate students to nurture skills and professional competency to meet the ever-changing needs of society and industry.

M4: To provide students with the tools to become productive, participating global citizens and life-long learners.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1. Ability to demonstrate and implement the core concepts of Information Technology, principles and Tools to design IT systems effectively.

PSO2. Able to prepare students with the base of computer science skills and practical knowledge to meets social and global requirement.

Program Outcomes(POs)

Computer Application & Information Technology graduates will be able to:

- PO1 **Computer knowledge:** Apply the knowledge of mathematics, science, computer fundamentals and specialization to the solution of complex problems.
- PO2 **Problem analysis:** Identify, formulate, review research literature, and analyze complex computer science problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and computer sciences.
- PO3 **Design/development of solutions:** Design solutions for complex computer science problems and design system components or processes that meet the specified needs with appropriate

consideration for cultural, social environment.

- PO4 **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5 **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern IT tools including prediction and modeling to complex activities with an understanding of the limitations.
- PO6 **The digital youth and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional skill-set.
- PO7 **Environment and sustainability:** Understand the impact of the professional computer science solutions in social and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the computer science practice.
- PO9 **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 **Communication:** Communicate effectively on complex activities with the computer science community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11 **Project management and finance:** Demonstrate knowledge and understanding of the computer and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

A.Y.2019-2020

SEMESTER-IV

Subject Name: Advanced Networking (MCA-411)

Course Outcomes

CO 1: Design basic network - wired and wireless (BT-1)

CO 2 Applying the knowledge to practice and Understand the IPv4 and IPv6 addresses (BT-2,3)

CO 3: Analyze the knowledge about the essentials and working of protocols (BT- 4)

CO 4: Evaluate the estimate technique to Develop network specific configurations (BT-5)

CO 5: Develop knowledge of TCP handshake (BT-5,6)

CO 6: Develop and analyze routing techniques (BT-6)

COURSE OUTCOME (CO) and PROGRAM OUTCOME (PO) Matrix

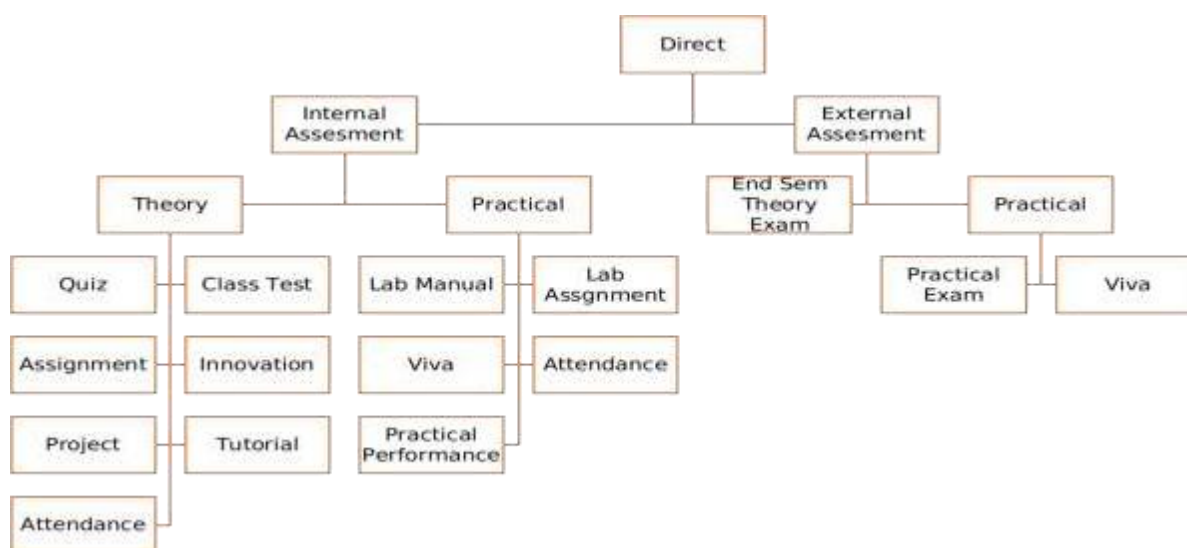
(1- Low, 2-Medium, 3- High) (Average of

COs course wise for each POs)

| CO | PO1 | PO2 | PO 3 | PO 4 | PO 5 | PO 6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|------|-----|-----|------|------|------|------|-----|-----|-----|------|------|
| CO 1 | 2 | 1 | 3 | 1 | 1 | - | - | - | - | 1 | - |
| CO 2 | - | 2 | 2 | 3 | 1 | - | - | - | - | 1 | - |
| CO 3 | 1 | 3 | 1 | 2 | 2 | - | - | - | - | 2 | - |
| CO 4 | - | - | 2 | - | 3 | - | - | - | - | 1 | - |
| CO 5 | 2 | 1 | 1 | 1 | 2 | - | - | - | - | 3 | - |
| CO 6 | - | 3 | 2 | 2 | 1 | - | - | - | - | 1 | - |

COURSE OUTCOME and PROGRAM SPECIFIC OUTCOME Matrix

| CO | PSO 1 | PSO 2 |
|---------|-------|-------|
| CO 1 | 2 | 1 |
| CO 2 | 2 | 3 |
| CO 3 | 2 | 2 |
| CO 4 | 2 | 2 |
| CO 5 | 2 | 1 |
| CO 6 | 3 | 3 |
| MSC0211 | 2.5 | 2 |



Direct Assessment method – The knowledge and skills learnt by the students are assessed directly from their performance through internal assessment and external assessment processes.

External assessment- Performance of student is recorded in university theory exams, laboratory exams and project evaluation.

Internal assessment- Performance of student is recorded through class assignments and tutorials, internal assessment tests, laboratory assignments, seminars and project progress review and evaluation.

Attainment of Course Outcomes (CO's) Test

For End Semester Theory and Practical Exams

1. AttainmentLevel1: If <45% students scoring $\geq 60\%$ marks
2. AttainmentLevel2: If >45-75% students scoring $\geq 60\%$ marks
3. AttainmentLevel3: If >75-100% students scoring $\geq 60\%$ marks

For Internal Theory and Practical Exams

1. AttainmentLevel1: If <45% students scoring $\geq 75\%$ marks
2. AttainmentLevel2: If >45-75% students scoring $\geq 75\%$ marks
3. AttainmentLevel3: If >75-100% students scoring $\geq 75\%$ marks

Internal Component with COs mapping

Component-1: Assignment/Class Participation (CO1, CO2, CO3, CO4, CO5, CO6)

Component-2: Class Test (CO1, CO2, CO3, CO4, CO5, CO6)

Component-3: Internal Practical (CO1, CO2, CO3, CO4, CO5, CO6)

Course Attainment Academic Year 2019-2020

| | |
|-----------------------|-------------------------------|
| Course Name with Code | Advanced Networking – MCA-411 |
| Class | MCA Semester-IV |
| Faculty Name | Prof. Madhavi Dave |

| CO Attainment | 1 | 2 | 3 | Internal assessment component total (1 to 3) |
|--------------------|---|---|---|--|
| Internal Component | | | | |
| CO 1 | 2 | 1 | 1 | 1.3 |
| CO 2 | 1 | 2 | 2 | 1.7 |
| CO 3 | 1 | 1 | 2 | 1.3 |
| CO 4 | 2 | 1 | 1 | 1.3 |
| CO 5 | 1 | 1 | 2 | 1.3 |
| CO 6 | 1 | 1 | 1 | 1.0 |

Indirect Attainment from the students feedback for each COs

| S.N | Course Outcome | L | M | H |
|-----|---|---|---|---|
| 1 | Design basic network - wired and wireless | 2 | 3 | 6 |
| 2 | Applying the knowledge to practice and Understand the IPv4 and IPv6 addresses | 2 | 4 | 5 |

| | | | | |
|---|--|---|---|---|
| 3 | Analyze the knowledge about the essentials and working of protocols | 3 | 6 | 2 |
| 4 | Evaluate the estimate technique to Develop network specific configurations | 3 | 4 | 4 |
| 5 | Develop knowledge of TCP handshake. | 4 | 5 | 2 |
| 6 | Develop and analyze routing techniques | 4 | 4 | 3 |

1-Low(L), 2-Medium(M), 3- High(H) Total

studentgivenfeedback:11outof 17

| S.N | Course Outcome | Value |
|-----|---|-------|
| 1 | Design basic network - wired and wireless | 2.4 |
| 2 | Applying the knowledge to practice and Understand the IPv4 and IPv6 addresses | 2.0 |
| 3 | Analyze the knowledge about the essentials and working of protocols | 2.0 |
| 4 | Evaluate the estimate technique to Develop network specific configurations | 2.1 |
| 5 | Develop knowledge of TCP handshake. | 2.4 |
| 6 | Develop and analyze routing techniques | 2.1 |

| % CO Attainment | Internal Exam | Internal Exam *0.6 | End sem Exam | End sem Exam*0.4 | Direct Attainment (DA) | Indirect Attainment (IA) | Overall = 0.8*DA + 0.2*IA |
|-----------------|----------------------------------|--------------------|--------------|------------------|------------------------|--------------------------|---------------------------|
| CO 1 | 2.4 | 1.4 | 2 | 0.8 | 2.1 | 2.3 | 2.176 |
| CO 2 | 2 | 1.2 | 2 | 0.8 | 2.1 | 2.3 | 2.128 |
| CO 3 | 2 | 1.3 | 3 | 1.2 | 2.4 | 2.4 | 2.4 |
| CO 4 | 2.1 | 1.4 | 2 | 0.8 | 2.1 | 2.4 | 2.176 |
| CO 5 | 2.4 | 1.4 | 3 | 1.2 | 2.6 | 2 | 2.51 |
| CO 6 | 2.1 | 1.3 | 3 | 1.2 | 2.5 | 2.1 | 2.388 |
| | Overall Course Attainment | | | | | | 2.3 |
| | Set Target for the course | | | | | | 2.1 |
| | Course Attainment Status(Yes/No) | | | | | | Yes |

| | |
|---------------------|---|
| Best Performing CO: | 6 |
| Least Performing CO | 1 |

Observations:

| | |
|---|---|
| 1 | The target attainment for course outcome is approximately to the achieved course outcome. |
| 2 | The students are more inclined towards implementation |
| 3 | It gives a encouraging feedback that students are getting more practical knowledge. |

Plan of Action:

| | |
|---|--|
| 1 | More emphasize is to be given on technical knowledge |
| 2 | Creating case study for implementation |

Faculty Signature

