

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar, Gujarat**  
**(Reaccredited with 'A' Grade by NAAC (CGPA 3.25)**  
**Syllabus with effect from the Academic Year 2021-2022**

Bachelor of Business Administration  
BBA (ITM) - Semester-II

Course Code	UM02DBBI74	Title of the Course	Computer Networks
Total Credits of the Course	03	Hours per Week	03

Course Objectives:	<ol style="list-style-type: none"> <li>1. To develop and understand computer networking basics</li> <li>2. To develop understanding of different components of computer networks, protocols, modern technology and their applications.</li> </ol>
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Course Content		
Unit	Description	Weightage*(%)
1.	<b>Basics of Networking</b> Introduction of networking (Definition) - Advantages and Disadvantages of Networking - LAN, MAN, WAN - LAN Components - OSI model	25 %
2.	<b>Transmission Technology</b> Digital and Analog Transmission - Transmission mode (Half Duplex and Full Duplex Transmission) - Serial Transmission, Parallel Transmission - Synchronous & Asynchronous Transmission - Transmission Impairment (Attenuation, distortion, Noise)	25 %
3.	<b>Topology and Protocols</b> LAN Topologies (Bus, Star, Ring, Tree, Mesh, Intersecting Rings) - Protocols (Definition), Need of Protocols - Protocols (CSMA/CD, CSMA/CA)	25 %
4.	<b>Networking Media and Devices</b> Types of transmission media - Guided Media - (Twisted pair cables, Coaxial Cables, Optical fibers), Devices - Hubs, Switches, Bridges, Routers, Gateways, Modems	25 %

Teaching-Learning Methodology	Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimise the delivery of information.
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Evaluation Pattern		
Sr.	Details of the Evaluation	Weightage
No.		
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Share data over various networks.
2.	Evaluate the challenges in building networks and solutions to those.
3.	Discuss the key technological components of the networks.

Suggested References:	
Sr.No.	References
1.	B. A. Forouzan: Data Communications and Networking 2nd Edition, TMH
2.	Andrew S Tannenbaum: Computer Networks, 3rd Ed., Pearson-Prentice Hall
3.	B. A. Forouzan: Local Area Networks, TMH

On-line resources to be used if available as reference material
On-line Resources
<a href="https://docs.google.com/viewer?a=v&amp;pid=sites&amp;srcid=ZGVmYXVsdGRvbWFpbXza21pbmh8Z3g6NjQxMTI2MmYxMTAwZmNjZQ">https://docs.google.com/viewer?a=v&amp;pid=sites&amp;srcid=ZGVmYXVsdGRvbWFpbXza21pbmh8Z3g6NjQxMTI2MmYxMTAwZmNjZQ</a>
<a href="https://www.tutorialspoint.com/data_communication_computer_network/data_communication_computer_network_tutorial.pdf">https://www.tutorialspoint.com/data_communication_computer_network/data_communication_computer_network_tutorial.pdf</a>
<a href="http://index-of.co.uk/Networking/Networking%20The%20Complete%20Reference,%20Third%20Edition%20-%20Bobbi%20Sandberg.pdf">http://index-of.co.uk/Networking/Networking%20The%20Complete%20Reference,%20Third%20Edition%20-%20Bobbi%20Sandberg.pdf</a>

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**Bachelor of Business Administration**  
**BBA (ITM) - Semester-II**

Course Code	UM02DBBI76	Title of the Course	Networking Technologies
Total Credits of the Course	3	Hours per Week	3

Course Objectives:	<p>1 To learn data communication fundamentals.</p> <p>2 To understand the basic concepts of high speed LANs, satellite communication, routing and congestion control.</p>
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Course Content		
Unit	Description	Weightage* (%)
1.	<p><b>Switching &amp; Multiplexing</b></p> <p>Introduction to Networking: Need, Advantages and Disadvantages - Computer Communication and need to transmit data over long distances - Types of Networks and their characteristics - Difference between Multi-user system and LAN - Layered Model for LAN/WAN internetworking</p>	25%
2.	<p><b>Switching &amp; Multiplexing</b></p> <p>Introduction to Switching (Circuit Switching, Packet Switching, Message Switching) - Introduction to Shift Keying (Amplitude Shift keying (ASK), Frequency Shift Keying (FSK), Phase Shift Keying (PSK)) - Frequency Division Multiplexing (FDM) - Time Division Multiplexing (TDM)</p>	25%
3.	<p><b>Communication Protocols &amp; Ethernet</b></p> <p>Protocols - Need of protocols? - Protocol Hierarchy - Asynchronous Transmission - Synchronous Transmission – HDLC - SNMP (Simple Network Management Protocol): SNMP Model, Types of Ethernet (Standard, Fast, Giga Bit), Applications of Ethernet (10 Base 2, 10 Base 5, 10 Bases - T, 10 Bases – F)</p>	25%
4.	<p><b>TCP/IP</b></p> <p>Overview of TCP/IP – Network Layer(IPv4) – Addressing – Subnetting – Other Protocols in the Network Layer(ARP) – Transport Layer(TCP) – Next Generation: IPV6</p>	25%



Teaching-Learning Methodology	Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimise the delivery of information.
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Evaluation Pattern		
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1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understanding of the data communication fundamentals.
2.	Describe and implement the basic concepts related to high speed LANs, Data communication.
3.	Understand the TCP/IP and IPV4 Model.
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Suggested References:	
Sr. No.	References
1.	B. A. Forouzan: Data Communications and Networking 2nd Edition, TMH
2.	Andrew S Tannenbaum: Computer Networks, 3rd Ed., Pearson-Prentice Hall
3.	B. A. Forouzan: Local Area Networks, TMH
On-line Resources	
1. <a href="https://www.studytonight.com/computer-networks/">https://www.studytonight.com/computer-networks/</a> 2. <a href="https://www.tutorialspoint.com/computer_fundamentals/computer_networking.htm">https://www.tutorialspoint.com/computer_fundamentals/computer_networking.htm</a>	

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Bachelor of Business Administration  
BBA (ITM)- Semester - II

Course Code	UM02SBB171	Title of the Course	Climate Change and Sustainable Development
Total Credits of the Course	03	Hours per Week	03

Course Objectives:	<p>Objectives:</p> <ol style="list-style-type: none"> <li>1. Students should be aware of pollution and different types of environmental pollution.</li> <li>2. Impart knowledge of different type of disaster and its measures.</li> <li>3. Students should be aware of water harvesting techniques</li> <li>4. Students should learn changes of climate, its impact on human and other living being.</li> </ol>
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Course Content		
Unit	Description	Weightage* (%)
1.	<p><b>Pollution:</b></p> <p>Causes and Effects of Air Pollution, Water Pollution, Soil Pollution, Marine Pollution and Noise Pollution, Role of an individual in prevention of pollution, Disaster management: Floods, Earthquakes, Cyclones and Landslides.</p> <p>Case study: Air pollution</p>	25%
2.	<p><b>Social Issues:</b></p> <p>From unsustainable to sustainable development, Urban problems related to energy, Water conservation, Rainwater harvesting and Watershed management, Resettlement and rehabilitation of people: It's Problems and concerns.</p> <p>Case studies: Slums Specific Problems and measures</p>	25%
3.	<p><b>Climate Change and Global Warming:</b></p> <p>Climate change, Global warming, Acid rain, Ozone layer depletion, Issues involved in enforcement of environmental legislation, Survey on Public awareness, Case studies</p>	25%



4.	<b>Human Population and Environment</b> Population growth, Population Explosion, Environment and Human	25%
	Health, Role of information technology in environment and human health, Family welfare programmes, Visit to a local area to document environmental assets as per guidelines.	

Teaching-Learning Methodology	These are teacher-centred methods, learner-centred methods, content-focused methods and interactive/participative methods.
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Evaluation Pattern		
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1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Describe what pollution is. Students come to know various types of pollution and its effects. Students learn to check pollution and contribute to the society.
2.	Identify new ways of curbing pollution. They also prepare themselves to curb with disastrous incidents like earthquakes, floods etc.
3.	Demonstrate an awareness of the difficulties involved in the detection of any unusual global warming 'signal' above the 'background noise' of natural variability in the Earth's climate and of attributing (in whole or in part) any such signal to human activity
4.	Students become well aware of the population problem, its impact on environment. They come to know the recent family welfare programmes of the government. They also know the technology and health. They can contribute to ease the problems related population and health of the community.



Suggested References:	
Sr. No.	References
1.	Environmental Studies- Dr. Suresh K. Dhameja. Published by SK Kataria & Sons, New Delhi-110006
2.	Introduction to Environmental Studies- Chandar K. Sharma, Vrinda Publications Pvt. Ltd. Delhi-110091
3	Textbook of Environmental Studies for Undergraduate Courses- Erach Bharucha

On-line resources to be used if available as reference material
On-line Resources
<a href="#">Environmental Studies For Undergraduate Courses - UGC</a>

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