Department of Higher Education, Madhya Pradesh

Information Technology

PART A: Introduction			
Program : Under Graduate Course	Level - Beginner		Session:2025-26
Subject : Information Technology			
1	Course Code	V1-COS-IT	
2	Course Title	Information Technology	
3	Course Type	Multidesciplinary	
4	Pre-Requisite(if any)	No Pre-Requisite	
5	Course Learning Outcomes(CLO)	**On completion of this course, learners will be able to:** 1. Understand IT components & its applications 2. Promote digital literacy, ethical awareness, and cyber hygiene. 3. Exposure to IT tools for office work including Indian languages 4. Encourage healthy and mindful habits through yoga and Indian values. 5. Introduce learners to emerging technologies like AI and cloud platforms.	
6.	Credit Value	**Theory**—2 Credits	
7.	Total Marks	Max. Marks :	Min. Passing Marks :

PART B : Content of the Course

No. of Lectures (in hours per week): 2 Hrs. per week

Total No. of Lectures: 30

Module	Topics	No. of Lectures
I	**Fundamentals of Information Technology & Indian Knowledge Systems** History of Computing: From Ancient Indian contributions (e.g., binary logic in Pingala's Chandaḥśāstra) to modern IT Overview of Computer Systems: Hardware, Software, I/O Devices, Memory Operating Systems (Windows/Linux), File Management Introduction to Number Systems with Indian numeral history Concept of Digital India and e-Governance initiatives **Activity :** 1. Visit to a Digital Seva Kendra (Common Service Center) 2. Create a poster on Indian IT innovations (ISRO, Aadhaar, etc.)	7

II	**Office Tools, Language & Communication in IT** Word Processing, Spreadsheets, and Presentations Use of local languages in IT (Unicode, Google translation tools, Indic typing tools) English for IT: Email Writing, IT vocabulary, presentation skills Language models and voice-to-text (Google Lens, ChatGPT, AI typing tools) UPI and QR Code : Introduction, Functionality, Challenges and Application in Indian context. **Activity :** 1. Prepare a bilingual presentation (English + regional language) 2. Draft an email for a job application and create a digital resume	7
III	**Internet, AI Tools & Cyber security Awareness** Introduction to Internet, Cloud, and Email Cyber security basics: Phishing, Malware, Identity Theft Digital Ethics and Indian perspectives on "Dharma in Technology" Hands-on: Google Workspace, ChatGPT, Canva, Gemini, Indian AI tools Cybercrime awareness: Government portals (CERT-IN, Cyber Crime Reporting Portal). **Activity :** 1. Mock simulation of cybercrime reporting 2. Create a “Stay Safe Online” digital awareness video or poster.	6
IV	Text and Image Data: Introduction, Storage Formats for pictures, Image compression fundamentals, Image acquisition with Digital Camera. Audio Data: Introduction, Audio Signals, Acquisition and Storage, Compression Video Data: Introduction, Capturing a moving scene with Video Camera, Compression, MPEG compression standard. **Activity :** 1. Understand how digital images are captured, stored in various formats, and compressed, while analyzing the impact of these factors on quality and size. 2. Understand how audio and video data are captured, stored, and compressed, and how different formats and compression levels affect quality and file size.	5
V	**IT Profession, Indian Values, Yoga & Social Impacts of Technology** Careers in IT: Freelancing, BPO, Data Entry, Web Development, AI Work ethics, time management, and digital wellbeing Indian Values: Satya, Ahimsa, and Seva in Tech Service Yoga for concentration, posture correction, and stress management for IT users	5

	Social implications: Digital divide, screen addiction, misinformation. **Activity :** 1. Daily 5-minute yoga for eyes and back (Demonstration & practice) 2. Conduct a debate: "Has Technology made us more connected or more isolated?"	

Keywords/ Tags:

PART C: Learning Resources

Text books, Reference Books, Other Resources

Suggested Readings:

- Introduction to Information Technology By RAJARAMAN V., PHI Learning Pvt. Ltd. (Fourteenth Printing, Third Edition, January 2018)
- "Fundamentals of Information Technology" – Alexis Leon & Mathews Leon
- Vedic Mathematics 2005, Sterling Publishers Pvt. Ltd. ISBN 978-81-7963-001-3 Reprint 2006, 2009
- "Digital Literacy Curriculum" – MeitY (Govt. of India)

Suggestive digital platform web links:

- National Digital Library of India (NDLI)
  en.wikipedia.orgswayam.gov.in.
- SWAYAM "Fundamentals of Information Technology" (AMU)
  swayam.gov.in+11onlinecourses.swayam2.ac.in+11classcentral.com+11.
  https://www.nielit.gov.in/content/digital-literacy-courses

Suggestive equivalent online courses:

- Diksha Portal, NPTEL, Cyber Surakshit Bharat
- MyGov Cyber Safety Module
- AI Tools Practice **:** ChatGPT, Bard/Gemini, Canva, Grammarly, Scratch/Python IDEs
- **SWAYAM – Fundamentals of IT (AMU)**
  – Comprehensive coverage of Module I, including history, hardware, OS, memory, number systems, and an intro to cybersecurity onlinecourses.swayam2.ac.in+15onlinecourses.swayam2.ac.in+15testbook.com+15.
- **SWAYAM – Course in Information Technology (Savitribai Phule Pune Univ.)**
  – A 30-module, 8-week program with cloud introduction, Google Workspace, e-Governance concepts and basic security onlinecourses.swayam2.ac.in+1swayam.gov.in+1.
- **IIT Madras C Programming & Assembly Language (SWAYAM)**
  – Ideal for Module IV: hands-on programming, logical thinking, algorithms, flowcharts, and connection to hardware fundamentals

PART D : Assessment and Evaluation

Internal Assessment : Continuous Comprehensive Evaluation **(CCE)**: **40 Marks**		End Term Examination(s) : **60 Marks** Time : 03:00 Hours	
Class Test	Marks		
Presentation/Assignment/Quiz/Group Discussion	Marks		
Appropriate weight	Marks		

age of attendance in the class			
Total	Marks	Total: 100	Marks
Any Remarks/ Suggestions:			

Practicals		
No. of Labs (in hours per week): 2 Hrs.per week		
Credit 1		
Total No. of Labs : 30 Hrs.		
Module	Reference/Suggestive List of Practical Faculty is free to introduce innovative assignments as per student level	No. of Labs
	1. Identify and List Computer System Components Open a PC, identify hardware parts (RAM, HDD, motherboard, I/O devices), and create a labelled diagram. 2. Install and Compare OS (Windows vs Linux) Dual-boot or virtual install Linux (Ubuntu), compare file systems, UI, and commands. 3. File Management Operations Create folders, copy/move/delete files, use command-line (Windows CMD or Linux terminal). 4. Number System Converter Using Spreadsheet Convert between Decimal, Binary, Octal, and Hexadecimal. 5. Explore Digital India Portals Navigate portals like *UMANG*, *MyGov*, or *eDistrict* and note their services. 6. Create a Document with Word Processor Prepare a report with headings, bullet points, image insertion, and page formatting. 7. Use Spreadsheets for Budget/Attendance Calculation Formulas, charts, conditional formatting, and data filtering. 8. Prepare a Presentation with Animations Slides with images, transitions, and speaker notes (topic: e-Governance or AI in India). 9. Type a Paragraph in Hindi or Your Local Language Using Google Input Tools or Indic Keyboard with Unicode support. 10. Translate a Passage Using Google Translate Translate English to any Indian language, check accuracy, and voice pronunciation. 11. Practice Email Writing & IT Vocabulary Compose a formal IT-related email; identify 20 IT-specific terms. 12. Test Voice-to-Text Using Google Lens or ChatGPT Speak a paragraph and convert it to digital text. Analyze accuracy and limitations. 13. QR Code Scanner & UPI Demo (Mock Activity) Generate a QR code using a tool, and simulate UPI-based payments (no real transactions). 14. Create and Share a Document Using Google Workspace Collaborate on Google Docs or Sheets with comments and version history. 15. Visit CERT-IN and Cybercrime Portals Explore the Government's cybercrime reporting portal and note key features. 16. Hands-on with AI Tools (ChatGPT, Gemini, etc.) Ask an AI to generate a bio, convert text to summary, or translate content. Document outputs. 17. Capture an image, audio, and video using a smartphone or digital camera.	

	Save each file in multiple formats (e.g., JPEG, PNG, WAV, MP3, MP4) and record file sizes. Compare quality and size across formats to understand storage and compression. 18. Record audio and video clips and compress them using Audacity and Hand Brake tools. Analyze quality differences and calculate compression ratios. 19. Draw a Flowchart for a Real-Life Task E.g., Making tea, submitting an online form. 20. Daily Yoga Routine for Digital Wellness Follow a 15-min yoga/stretch session for posture & stress relief. Log benefits weekly.	

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Appropriate weight age of attendance in the class	Marks		
Total	Marks	Total: 100	Marks
Any Remarks/ Suggestions:			