

# **PONDICHERRYUNIVERSITY**

**Value Added Course in common to all**  
**UGprogrammes (Arts, Science and**  
**Commerce)**



## **NEPSYLLABI**

## **DIGITALTECHNOLOGIES**

## **AFFILIATEDCOLLEGES**

**FROMTHEACADEMICYEAR(2023-24onwards)**

## VALUE ADDED COURSES

Year	I	Course Code: CS2VA04	Credits	2
Sem.	II	Course Title: Digital Technologies	Hours	45
Course Prerequisites, if any	-NIL-			
Internal Assessment Marks: 25	End Semester Marks: 75	Duration of ESA (Theory) : 03 hrs. Duration of ESA (Practical) : 03 hrs.		
Course Outcomes	<ul style="list-style-type: none"> <li>• Learn about digital paradigm.</li> <li>• Understand the importance of digital technology, digital financial tools, e-commerce.</li> <li>• Analyse the concepts of communication and networks.</li> <li>• Understand the e-governance and Digital India initiatives.</li> <li>• Understand the use &amp; applications of digital technology.</li> <li>• Learn the applications of machine learning and big data.</li> </ul>			
Unit No.	Course Content		Hours	
<b>Theory Component</b>				
Unit I	Introduction & Evolution of Digital Systems. Role & Significance of Digital Technology. Information & Communication Technology & Tools. Computer System & its working, Software and its types. Operating Systems: Types and Functions. Problem Solving: Algorithms and Flowcharts.		7	
Unit II	Communication Systems: Principles, Model & Transmission Media. Computer Networks & Internet: Concepts & Applications, WWW, Web Browsers, Search Engines, Messaging, Email, Social Networking. Computer Based Information System: Significance & Types. E-commerce & Digital Marketing: Basic Concepts, Benefits & Challenges.		7	
Unit III	Digital India & e-Governance: Initiatives, Infrastructure, Services and Empowerment. Digital Financial Tools: Unified Payment Interface, Aadhar Enabled Payment System, USSD, Credit / Debit Cards, e-Wallets, Internet Banking, NEFT/RTGS and IMPS, Online Bill Payments and PoS. Cyber Security: Threats, Significance, Challenges, Precautions, Safety Measures, & Tools, legal and ethical perspectives.		7	
Unit IV	Emerging Technologies & their applications: Overview of Cloud Computing, Big Data, Internet of Things, Virtual Reality,		7	
Unit V	Emerging Technologies & their applications: Blockchain & Cryptocurrency, Robotics, Machine Learning & Artificial Intelligence, 3-D Printing. Digital Signatures.		7	
<b>Practical Component</b>				
Practice	<ol style="list-style-type: none"> <li>1. Operating System Installation and configuration</li> <li>2. Application Software Installation and configuration</li> <li>3. Hardware understanding and minor troubleshooting</li> <li>4. Networking, cabling, configuration</li> </ol>		10	
<b>Recommended Learning Resources</b>				
Print Resources	<ol style="list-style-type: none"> <li>1. Pramod Kumar, Anuradha Tomar, R. Sharmila, "Emerging Technologies in Computing - Theory, Practice, and Advances", Chapman and Hall / CRC, 1<sup>st</sup> Edition, 2021, eBook ISBN: 9781003121466. <a href="https://doi.org/10.1201/9781003121466">https://doi.org/10.1201/9781003121466</a>.</li> <li>2. V. Rajaraman, "Introduction to Information Technology", PHI, 3<sup>rd</sup> Edition, 2018, ISBN-10: 9387472299, ISBN-13: 978-9387472297.</li> <li>3. E. Balagurusamy, "Fundamentals of Computers", Tata Mc GrawHill, 2<sup>nd</sup> Edition, 2011, ISBN: 9780071077880.</li> </ol>			

	<ol style="list-style-type: none"><li>4. Behrouz A. Forouzan, "Data Communications and Networking", McGraw Hill, 4<sup>th</sup> Edition, 2007, ISBN 978-0-07-296775-3.</li><li>5. Rajkumar Buyya, James Broberg, and Andrzej Goscinski, "Cloud Computing-Principals and Paradigms", Wiley, 2011, ISBN: 978-0-470-88799-8.</li><li>6. Stuart Russel and Peter Norvig, "Artificial Intelligence - A Modern Approach", Pearson Education, 3<sup>rd</sup> Edition, 2010, ISBN- 13: 978-0-13 -604259-4.</li><li>7. Samuel Greengard, "Internet of Things", The MIT Press, 2015, ISBN: 9780262328937, <a href="https://doi.org/10.7551/mitpress/10277.001.0001">https://doi.org/10.7551/mitpress/10277.001.0001</a>.</li><li>8. C.S.V. Murthy, "E- Commerce – Concept, Models &amp;Strategies", Himalaya Publishing House, 2015, ISBN: 8178662760.</li><li>9. Hurwith, Nugent Halper, Kaufman, "Big Data for Dummies", Wiley &amp; Sons, 1<sup>st</sup> Edition, 2013, ISBN-13: 978-1118504222.</li></ol>
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# **PONDICHERRYUNIVERSITY**

**Value Added Course in common to all**  
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**NEPSYLLABI**

**UNDERSTANDINGINDIA**

**AFFILIATEDCOLLEGES**

**FROMTHEACADEMICYEAR(2023-24onwards)**

**PondicherryUniversity**  
**NEP-UnderstandingIndia**

Course Overview:

**The course aims at enabling the students to acquire and demonstrate the knowledge and understanding of contemporary India with its historical perspective, the basic framework of the goals and policies of national development, and the constitutional obligations with special emphasis on constitutional values and fundamental rights and duties. The course would also focus on developing an understanding among students of Indian society, Indian knowledge systems and cultural heritage.**

Course Objective and Outcome:

**The course aims at making the students understand India from global, national and local perspectives. A student would be able to understand India in geographical, historical, social, cultural and political settings. At the end of the semester, the students will be able to appreciate the multicultural and multifaceted nature of India.**

### **Unit I: Geography of India**

- India on the map of the world and its neighbouring countries
- Geographical diversities

### **Unit II History of India**

- India's Freedom Struggle
- An introduction to Indian knowledge systems

### **Unit III: Communicating Culture**

- Oral narratives: Myths, tales and folklore
- Introduction to the Tribal Cultures of India

### **Unit IV: Indian Social Structure**

- Continuity and change of the Indian Social Structure: Caste, Community, Class and Gender

### **Unit V: Understanding Indian Polity**

- The evolution of State in India: Nature and origin
- Interpretating India: Traditional, Modern and Contemporary
- Constitution as a living document

## Reading List

### Unit I: Geography of India

- Ramesh Dutta Dikshit, *Political Geography: Politics of Place and Spatiality of Politics*, **Macmillan Education, 2020.**
- Deshpande C. D., 1992: India: A Regional Interpretation, ICSSR, New Delhi.
- Johnson, B. L. C., ed. 2001. Geographical Dictionary of India. Vision Books, New Delhi.
- Mandal R.B.(ed.), 1990: Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.
- Tirtha, Ranjit 2002: Geography of India, Rawat Pubs., Jaipur & New Delhi.
- Pathak, C.R. 2003: Spatial Structure and Processes of Development in India. Regional Science Assoc., Kolkata.
- Tiwari, R.C. (2007) Geography of India. Prayag Pustak Bhawan, Allahabad 12. Sharma, **T.C. (2013) Economic Geography of India. Rawat Publication, Jaipur**

### Unit II: History of India

- <https://iksindia.org>
- Bose D.M., S.N. Sen and B.V. Subbarayappa ed. (1971) *A Concise History of Science in India*, Indian National Science Academy, New Delhi.
- Chandra, Bipan, Amal Tripathi & Barun De (1972), *Freedom Struggle*, National Book Trust, New Delhi.
- Husain, S. Abid. (2003). *The National Culture of India*, National Book Trust, New Delhi.
- Kapoor, Kapil and Avadesh Kumar Singh ed. (2005), *Indian Knowledge Systems*, 2 Volumes, DK Printworld, New Delhi.
- Mohanta, Basant Kumar and Vipin Kumar Singh ed. (2012), *Traditional Knowledge System and Technology in India*, Pratibha Prakashan
- *History of Technology in India*, 3 Volumes (1997-2012), Indian National Science Academy, New Delhi.
- *The Cultural Heritage of India Series*, 8 Volumes (2002), Ramakrishna Mission Institute, Calcutta.

### Unit III: Communicating Culture: Tellings, Representations, and Leisure

- Kanak Mital, “A Santhal Myth, Five Elements” & M.D. Subash Chandran, “Peasant Perception of Bhutas, Uttara Kannada” in Prakrti, The Integral Vision, Vol. 1 (Primal Elements–The Oral Tradition, edited by Baidyanath Saraswati), pp. 119-125; 151-166.
- A.K. Ramanujan, “‘A Flowering Tree’: A Woman’s Tale”, Oral Tradition, 12/1 (1997): 226-243.
- Stuart H. Blackburn, “The Folk Hero and Class Interests in Tamil Heroic Ballads”, Asian Folklore Studies, Vol. 37, No. 1 (1978), pp. 131-149.
- Beatrix Hauser, “From Oral Tradition to ‘Folk Art’: Reevaluating Bengali Scroll Paintings”, in Asian Folklore Studies, Vol. 61, No. 1 (2002), pp. 105-122.
- Komal Kothari, “Myths, Tales and Folklore: Exploring the Substratum of Cinema” pdf.

### Unit IV: Indian Social Structure

- Singh, Y. (1968). Caste and Class : Some Aspects of Continuity and Change. Sociological Bulletin, 17(2), 165–186. <https://doi.org/10.1177/0038022919680205>
- Singh, Y. (1986). Modernization of Indian Tradition: A Systemic Study of Social Change. India: Rawat Publications.
- Gupta, D. (2000). Interrogating caste: understanding hierarchy and difference in Indian society. India: Penguin Books.
- Rege, S. (1996). Caste and Gender: The Violence Against Women in India. Italy: European University Institute.
- Xaxa, V. (2008). State, Society, and Tribes: Issues in Post-colonial India. India: Dorling Kindersley (India), licensee of Pearson Education in South Asia.
- Uberoi, P. (1994). Family, Kinship and Marriage in India. India: Oxford University Press.
- Robinson, R. (2004). Sociology of Religion in India. India: SAGE Publications.
- Srinivas, M. N. (2000). Caste: Its 20th Century Avatar. India: Penguin Books Limited.
- Jamil, G. (2021). Women in Social Change. SAGE Publishing India.
- Bhasin, K. (2000). Understanding Gender.

### Unit V: Understanding Indian Polity

- Madhav Khosla. *The Indian Constitution*. New Delhi, Oxford University Press, 2012.
- Ramachandra Guha. *Makers of Modern India*. Cambridge, Mass., The Belknap Press of Harvard University Press, 2013.
- Thapar, Romila. *Indian Cultures as Heritage: Contemporary Pasts*. London, Seagull Books, 2021.
- Venkataraghavan Subha Srinivasan. *The Origin Story of India’s States*. Penguin Random House India Private Limited, 25 Oct. 2021.



- JSaiDeepak.*IndiaThatIsBharat:Coloniality,Civilisation,Constitution*.NewDelhi, Bloomsbury, 2021.

## ENVIRONMENTAL STUDIES

*For compulsory to Undergraduate course students*

**EVNS:111A**

**CREDITS:2**

### **Unit1:Multidisciplinary natureofenvironmentalstudies[3lectures]**

1. Definition,scopeandimportance;Need forpublicawareness.
2. Environmentalethics:Issuesandpossiblesolutions
3. EnvironmentProtectionAct.

### **Unit2:NaturalResources,RenewableandNon-renewableResources[5lectures]**

1. Forestresources:Useandover-exploitation,deforestation,Timberextraction.
2. Water resources:Useand over-utilization of surfaceandgroundwater,floods,drought, dams-benefits and problems.
3. Foodresources:Worldfoodproblems,changescausedbyagricultureandovergrazing, effects of modern agriculture,
4. Energyresources:Renewableand non-renewableenergysources, useofalternateenergy sources.
5. Landresources:Landasaresource,landdegradation, soilerosionanddesertification.

### **Unit3:Ecosystems[7lectures]**

1. Conceptofanecosystem.
2. Structureand functionofanecosystem.
3. Energyflowintheecosystem.
4. Foodchains,foodwebsandecologicalpyramids.
5. Characteristicfeatures,structureandfunctionof
  - a. Forest ecosystem
  - b. Grasslandecosystem
  - c. Desertecosystem
  - d. Aquaticecosystems

#### **Unit4:Biodiversity and itsconservation[7lectures]**

1. Introduction–Definition:genetic,speciesandecosystemdiversity.
2. BiogeographicalclassificationofIndia, Indiaasamega-diversitynation
3. Valueofbiodiversity:consumptiveuse,productiveuse,social,ethical,aestheticvalues.
4. Hot-sportsofbiodiversity.
5. Threatstobiodiversity: habitat loss,poachingofwildlife,man-wildlifeconflicts.
6. Conservationofbiodiversity:In-situandEx-situconservationofbiodiversity.

#### **Unit 5:EnvironmentalPollution[8 lectures]**

1. Definition,cause,effectsandcontrolmeasuresof:
  - a. Airpollution
  - b. Water pollution
  - c. Soilpollution
  - e. Noisepollution
  - f. Thermalpollution
  - g. Nuclearhazards
2. Solidwastemanagement:Causes,effectsandcontrolmeasuresofurbanandindustrial wastes.
3. Disastermanagement:floods,earthquake,cycloneandlandslides.

#### **TextBooks:**

1. Odum,E.P.,BarrettG.,W.,2011,FundamentalsofEcology,5ed.,CengageLearning. ISBN-13: 978-8131500200
2. Sharma, P. D., 2011. Ecologyand Environment, RastogiPublications. ISBN-13:978-8171339655