



Chaibasa, Jharkhand, India

## **Proposed Syllabus for**

Four Year Undergraduate Programme (FYUGP) of

## Bachelor of Computer Application (BCA)

Semester - 1

## With Effect From Academic Year 2022 - 2023

As Per Revised Curriculum and Credit Framework for the FYUGP under the provisions of NEP - 2020

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# $\begin{array}{c} Course \; Structure \; (Semester-I) \; for \; Four \; Year \; Undergraduate \; Programme \; (FYUGP) \\ of \end{array}$

Sem.	Paper Code	Paper Title	L–T–P	Credits	Contact Hours	
	AEC-1	Language and Communication Skills: Hindi Composition		2		
	VAC-1	Value Added Course–1 (Two papers are to be selected by the students from the available options)		2+2=4		
т	SEC-1	Digital Education		3		
1	MDC-1	Multi-Disciplinary Course–1 (To be selected by the students from the available options)		3		
	MINE 1 A	Th: Introduction to Computer Science	2 0 1	2 + 1 = 4	45+30=75	
-	MIN-IA	Pr: Introduction to Computer Science Lab	3-0-1	3+1=4		
	MI 1	Th: C Programming Language	3 0 1	3+1-4	45 20 75	
	IVIJ-1	Pr: C Programming Language Lab	3-0-1	3+1-4	43+30=73	

### **Bachelor of Computer Applications (BCA)**

#### **Abbreviations:**

Th (Theory), Pr (Practical), L–T–P (Lecture–Tutorial–Practical), AEC (Ability Enhancement Course), VAC (Value Added Course), SEC (Skill Enhancement Course), MDC (Multi Disciplinary Course), MN–1 (Minor From Discipline–1), MN–2 (Minor From Vocational Studies/Discipline–2), IAP (Internship/Apprenticeship/Project), MJ (Major Disciplinary/Interdisciplinary Courses)

#### Programme Outcomes and Programme Specific Outcomes of Bachelor of Computer Application (BCA)

#### **Programme Outcomes:**

- **1.** Acquire knowledge of Computer application theory and algorithm principles in the design and modeling of computer based system.
- 2. Understand the computing concepts and their applications using the acquired board based knowledge.
- **3.** To provide thorough understanding of nature, scope and application of computer and computer languages.
- **4.** Identify and analyze software application problems in multiple aspect including coding, testing and implementation in industrial applications.
- **5.** The program prepares the young professional for a range of computer applications, computer organization, and techniques of Computer Networking, Software Engineering, Web development, Database management and Advance Java.

#### **Programme Specific Outcomes:**

- **1.** To pursue further studies to get specialization in Computer Science and Applications, Economics, Mathematics, Business Administration.
- 2. To pursue the career in corporate sector can opt for MBA, MCA, etc.
- **3.** To Work in the IT sector as programmer, system engineer, software tester, junior programmer, web developer, system administrator, software developer, etc.
- 4. To work in public sector undertakings and Government organizations.
- 5. Ability to understand the changes or future trends in the field of computer application.
- 6. Encouraging students to convert their start-up idea to reality by implementing.
- 7. Students will able to understand, analyze and develop computer programs in the areas related to algorithm, system software, web design and networking for efficient design of computer-based system.

### **MN-1A** (Th): Introduction to Computer Science

3 Credits | 45 Minimum Class Hours | Semester I

#### **Objectives:**

This course provides an overview of introductory concepts about computers, number systems and components of computer system. It builds the foundation of the computer application courses.

#### Learning Outcomes:

After completion of this course, a student will be able to-

- Handle a computer system for day-to-day use.
- Enumerate different types of input/output devices and types of memory.
- Perform conversion between different number systems including binary addition and subtraction.
- Familiarize Operating Systems, Programming languages, Network and Internet
- Differentiate between system and application software.
- Prepare documents, spreadsheets, and presentations.
- Use Email services.

#### **Outline of the Course**

Minimum Exam										Ma	rks			
Class		Ti	me	Cre	dits	Sem	Semester		End		Full		ass	Total
Hours		(Hours)				Internal		Semester		Mark		Marks		Marks
Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th + Pr
45	30	3	3	3	1	15	N/A	60	25	75	25	30	10	75+25=100

Unit	Торіс	<b>Minimum Class Hours</b>
Ι	Computer Basics and Number System	12
II	Input/Output Devices	05
III	Computer Software and Programming Language	16
IV	Network and Internet	12
	Total	45

#### **Detailed Syllabus**

#### **Unit I: Computer Basics and Number System**

*Computer Basics*: Introduction, Characteristics of Computers, Generation of Computers, Classification of Computers, Applications of Computers, Functional Block Diagram of Computer {Central Processing Unit, Input Unit, Output Unit, Memory Unit (Primary Storage Unit and Secondary Storage Unit), Bus Structure}.

*Number System*: Binary Number System, Octal Number System, Decimal Number System, Hexadecimal Number System, Conversion from One Number System to Another, Binary addition and subtraction.

#### **Unit II: Input/Output Devices**

Introduction, Input Devices (Keyboard, Pointing Devices, Speech Recognition, Digital Camera, Scanners, Optical Scanners), Output Devices {Hard Copy Output Devices (Printers, Plotters, Computer Output Microfilm (COM)), Soft Copy Output Devices (Monitors, Speakers, Projectors}.

#### Unit III: Computer Software and Programming Language

*Computer Program*: Introduction, Developing a Program, Algorithm, Flowchart, and Pseudo code.

**Programming Language:** Introduction, Evolution of Programming Languages, Classification of Programming Languages, Generations of Programming Languages, Features of a Good Programming Language, Selection of a Programming Language.

*Computer Software*: Introduction, Categories of Computer Software - System Software (Operating System, System Utility, Language Translators etc.) and Application Software (Word processor, Spreadsheet, Presentation, Database software etc.)

#### **Unit IV: Network and Internet**

Introduction to Network, Types of Networks, Introduction to Internet, ISP, URL, IP Address, Web Page, Web Site, Web Server, Web Browser, Internet Services (WWW and Electronic Mail - Creating E-Mail account, sending and receiving E-Mails).

#### **Recommended Books:**

- Anita Goel; Computer Fundamentals; Pearson
- ITL Education Solution Limited, R&D Wing; Introduction to Computer Science; Pearson Education

#### **Further readings:**

- CI Stens School of Computing, Internet and Introduction, TMH
- Rajaraman V., Fundamental of Computers, Prentice Hall of India Pvt. Ltd., New Delhi
- Peter Nortorns, Introduction to Computer, TMH



## MN-1A (Pr): Introduction to Computer Science Lab

1 Credit | 30 Minimum Class Hours | Semester I

#### **Objectives:**

The main objectives of the course are as follows-

- To use standard word, spreadsheets, and presentation packages.
- To use Email services.
- To understanding computer hardware.
- To learning basic application software tools.

### Learning Outcomes:

After completion of this course, a student will be able to-

- Handle a computer system for day-to-day including web browsing.
- Prepare documents, spreadsheets, and presentations.
- Use Email services.

### **Outline of the Course**

Min	imum	Ex	am							Ma	rks			
C	lass	Ti	me	Cre	Credits		ester	E	nd	F	ıll	Pa	ISS	Total
H	ours	(Ho	urs)			Inte	rnal	Sem	ester	Mark		Marks		Marks
Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th + Pr
45	30	3	3	3	1	15	N/A	60	25	75	25	30	10	75+25=100
			Ma	<u>rks Dis</u>	tribut	ion of 1	End Se	mester	Pract	ical Ex	amina	<u>tion</u>		
•	Experir	nents –	- 15 Ma	ırks		• Viva	I-Voce	-05 M	larks		• P1	ractical	File –	05 Marks
	Experiment List													
1.	Prepare	e your	Curricu	ılum Vi	itae usi	ng vari	ous for	matting	g tools.					
2.	Using	mail m	erge pr	epare a	n inter	view C	all Lett	er.						
3.	Create Name, Design	an ind Date o option	ex pag of Expe as etc.	e for tl riment,	ne Prac Page	ctical F No., Re	'ile usin emarks	ng tabl etc. Us	e havin se form	ng colu natting	mns su tools, T	ich as Fable L	Sl. No. ayout (	, Experiment option, Table
						Uni	t II: S <sub>F</sub>	preads	heet					
4.	4. Create a database of students, which contains marks obtained by students of a class in different subjects and then calculate maximum, minimum, average and sum of marks in each subject. Also calculate the percentage of total marks of each student using functions and formulas. Sort the data on the basis of percentage of total marks column in descending order.													
5.	Draw e 4.	effectiv	e chart	s (Pie C	Chart, I	Bar Gra	iph etc.	) to pro	esent st	udents	' data a	is giver	in Ex	periment No.
Kolha	ın Univers	sitv, Cha	uibasa											Page <b>7</b> of <b>12</b>

#### **Unit III: Presentation** Make a presentation on your college. Use various effects, animation and transitions etc. (Minimum 5 6. slides). **Unit IV: Internet** Create an e-mail id in any e-mail service provider website such as gmail, yahoomail, hotmail etc. Write a mail to a software company for the post of Software Engineer. Send your resume as (i) 7. an attachment. Also send a copy of mail to your teacher as a blind carbon copy (BCC). Read the unread mails present in your mailbox. (ii) (iii) Delete the unnecessary mails from the inbox. Sign out from your email account. (iv) Search the official website of Kolhan University in Google search engine using any web browser. 8. Open the official website of Kolhan University from Google search results and download the course MN-1A (Introduction to Computer Science) of FYUGP Syllabus.

Note: Additional lab assignments may be included based on topics covered in the theory paper



### MJ-1 (Th): C Programming Language

3 Credits | 45 Minimum Class Hours | Semester I

#### **Objectives:**

This course helps the students in understanding a powerful, portable and flexible structured programming language which is suitable for both systems and applications programming. It is a robust language which contains a rich set of built–in functions and operators to write any complex program.

#### Learning Outcomes:

After completion of this course, a student will be able to-

- Understand and use the process of abstraction using a programming language such as 'C'.
- Analyze step by step and develop a program to solve real world problems.

#### **Outline of the Course**

Minimum Exam										Ma	rks			
Class		Ti	me	Credits		Semester		End		Full		Pass		Total
Hours		(Hours)				Internal		Semester		Mark		Marks		Marks
Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th + Pr
45	30	3	3	3	1	15	N/A	60	25	75	25	30	10	75+25=100

Unit	Торіс	<b>Minimum Class Hours</b>
Ι	C Fundamentals	08
II	Control Structures and C Preprocessor	10
III	Arrays, Strings, Pointers, and Functions	17
IV	Structures and File Handling	10
	Total	45

#### **Detailed Syllabus**

#### **Unit I: C Fundamentals**

History, Structures of 'C' Programming, Function as Building Blocks, Character Set, Tokens, Keywords, Identifiers, Variables, Constant, Data Types, Comments.

*Operators*: Types of Operators, Precedence and Associativity, Expression, Statement and Types of Statements.

Built-in Functions: Console I/O Functions, Mathematical Functions, and Character Functions.

#### **Unit II: Control Structures and C Preprocessor**

*Control Structures*: Sequence Structure, Selection Structure (if Statement, if–else Statement, if–elseif Statement, Nested if–else Statement, switch–case Statement), Loop Structure (while, do–while, for Loop, Nested Loop), Other Statements (break, continue, goto).

C Preprocessor: Types of C Preprocessor Directives.

#### Unit III: Arrays, Strings, Pointers, and Functions

*Arrays*: One–Dimensional Arrays (Definition, Declaration, Initialization, Accessing and Displaying Array Elements, Passing Array to a Function), Two–Dimensional Arrays (Definition, Declaration, Initialization, Accessing and Displaying Array Elements).

Strings: Definition, Declaration, Initialization, Standard Library Functions.

*Pointers*: Definition, Declaration, Initialization, Indirection Operator, Address of Operator, Operations on Pointers, Array of Pointers, Dynamic Memory Allocation.

*Functions*: Declaration and Definition, Function Call, Types of Function, Parameter Passing (Call by Value, Call by Reference), Scope of Variables, Storage Classes (Automatic, Register, Extern, Static Variables), Recursive Function.

#### **Unit IV: Structures and File Handling**

*Structures*: Definition, Declaration, Initialization, Accessing Structure Elements, Array of Structures, Pointers and Structures, Passing Structures to a Function.

*File Handling*: Introduction, Defining and Opening a File, Closing a File, Input/Output Operations on Text and Binary Files, Error Handling During I/O Operation, Random Access to Files.

#### **Recommended Books:**

- Rajaraman V., Computer Programming in C (Second Edition), New Delhi: Tata McGraw-Hill Publication, 1992
- Kanetkar Y., Let Us C (Third Edition), New Delhi: BPB Publications, 1999
- Gottfried, B. S., **Theory and Problems of Programming with C**, New Delhi: Tata McGraw-Hill Publication, 1997
- Balaguruswamy E. **Programming in ANSI C** (Second Edition), New Delhi: Tata McGraw-Hill Publication, 1992

#### **Further readings:**

- Dennis Ritchie, The C Programming Language, New Delhi: Pearson Education
- Forouzah, Ceilberg Thomson, Structured Programming Approach Using C, Learning Publication
- Deitel & Deitel, C How To Program, New Delhi: Prentice Hall India, 1996
- R. B. Patel, **Fundamental of Computers and Programming in C**, Khanna Book Publishing Compa ny PVT. LTD. Delhi, India, 1st edition, 2008



### MJ–1 (Pr): C Programming Language Lab

1 Credit | 30 Minimum Class Hours | Semester I

#### **Objectives:**

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This course helps the students in understanding a powerful, portable and flexible structured programming language which is suitable for both systems and applications programming. It is a robust language which contains a rich set of built–in functions and operators to write any complex program.

#### Learning Outcomes:

After completion of this course, a student will be able to-

- Develop modular, efficient and readable C programs by hands-on experience.
- Interpret good profound knowledge in C programming language and enable them to build programs using Control Structures, Arrays, Strings, Pointers, Functions, Structures, and File Handling to solve the real world problems.

N / T

• Illustrate memory allocation to variables dynamically and perform operations on text files.

MIN	mum	LX	am							IVIa	rks			
C	lass	Tir	ne	Cre	Credits		ester	Eı	nd	Fu	ıll	Pass		Total
He	ours	(Ho	urs)			Inte	rnal	Sem	ester	Ma	ark	Ma	rks	Marks
Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th	Pr	Th + Pr
45	30	3	3	3	1	15	N/A	60	25	75	25	30	10	75+25=100
	Marks Distribution of End Semester Practical Examination													
•	• Experiments – 15 Marks • Viva-Voce – 05 Marks • Practical File – 05 Marks													
	Experiment List													
	Unit I: C Fundamentals													
1.	Write a of A, B	n progra 5, C, D,	am to e E, F, a	valuate ind G fi	the ari tom the	ithmeti e standa	c expre ard inpu	ssion ( it devic	(A + B)	/ C * I	D - E) *	* (F – <b>C</b>	G)). Re	ad the values
2.	Write a	ı progra	um to c	heck w	hether	a numl	per is ev	ven or o	odd usi	ng tern	ary (or	, condit	tional)	operator.
3.	Write a	ı progra	um to fi	ind the	size of	int, flo	oat, dou	ble and	l char d	lata typ	e.			
				Unit	: II: Co	ontrol	Structu	res an	d C Pr	eproce	ssor			
4.	Write a	n progra	um to fi	ind the	largest	numbe	er amor	g three	numbe	ers.				
5.	Write a program, which takes two integer operands and one operator from the user, performs the operation and then prints the result. (Consider the operators +, -, *, /, % and use " <b>switch–case</b> " statement)													
6.	Write a	ı progra	um to g	enerate	Fibon	acci se	ries up	to N <sup>th</sup> t	erm.					
7.	Write a	ı progra	to c	heck w	hether	a numl	oer is pa	alindro	me or r	not.				
8.	Write a	ı progra	um to c	heck w	hether	a numl	oer is pi	rime or	not.					
9.	Define program	a maci n for u	to that sing this	receive is macr	es an ai o to pri	ray an int the	d the n elemen	umber ts of th	of elen e array.	nents in	n the a	rray as	argum	ents. Write a

#### **Outline of the Course**

10.

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### **Unit III: Arrays, Strings, Pointers, and Functions** Write a program to find the sum of all elements, average of all elements, and the second largest element in a "One-Dimensional" integer array. Write a program that lets the user perform arithmetic operations on two "Two-Dimensional" integer arrays. Your program must be menu driven, allowing the user to select the operations (e.g., Press 1 for Addition and Press 2 for Multiplication). Write a program to reverse a given string and then count the number of vowels, consonants and spaces in that reversed string. Write a program that lets the user perform string operations on standard library functions. Your program must be menu driven, allowing the user to select the operations (e.g., Press 1 to demonstrate the usage of function "strlen()", Press 2 to demonstrate the usage of function "strlwr()", Press 3 to demonstrate the usage of function "strupr()", Press 4 to demonstrate the usage of function "strcat()", and so on). Write a program to concatenate two given strings and find the length of the resultant string using pointer. Write a program to read and print an integer array. The program should input total number of elements (limit) and elements in array from user. Use dynamic memory allocation to allocate (i.e., "malloc()" or "calloc()" functions) and deallocate (i.e., "free()" function) array memory. Write program that use function to return the greatest common divisor of two given integers. Write a program to print the transpose of a given matrix using function. Write a program to generate Fibonacci series up to N<sup>th</sup> term using recursive function. **Unit IV: Structures and File Handling** Write a program that lets the user perform arithmetic operations on two complex numbers. Define a structure that will hold the data for a complex number. Your program must be menu driven, allowing the user to select the operations (+, -, and \*) and input the complex numbers. Furthermore, your program must consist of following functions: Function "showChoice()": This function shows the options to the user and explains how to (i) enter data. Function "add()": This function accepts two complex number structures as arguments and (ii) returns a complex number structure with the sum of the two complex numbers. (iii) Function "subtract()": This function accepts two complex number structures as arguments and returns a complex number structure with the difference of the two complex numbers. (iv) Function "multiply()": This function accepts two complex number structures as arguments and returns a complex number structure with the product of the two complex numbers. Write a program to create a text file named "MyInfo.txt", open it, type-in some information about yourself. Read and count the number of characters in the file. And finally, copy the contents of the file to another file named "MyInfo\_Copy.txt" and display the contents of this file. Note: Additional lab assignments may be included based on topics covered in the theory paper.

PROVISIONAL SYLLABUS OF SEMESTER I UNDER FYUGP AS PER REVISED GUIDELINES OF NEP 2020 FOR ACADEMIC SESSION 2022-26

### **KOLHAN UNIVERSITY**

### CHAIBASA, JHARKHAND

### **UNIVERSITY DEPARTMENT**

OF

## HINDI

FOUR YEAR UG PROGRAMME (FYUGP)

HINDI SYLLABUS OF SEMESTER – I (As Per Revised Guidelines of NEP 2020) To Be Effective From: Academic Session 2022-26

### University Department of Hindi, Kolhan University, Chaibasa

Course of Study for four year undergraduate programme (FYUGP) under state university of Jharkhand.

As per regulations of NEP 2020 in the State of Jharkhand, the revised four year undergraduate programme (FYUGP) course syllabus and credit frame work in Hindi been prepared the following members of Board of studies (BOS) of University Department of Hindi, held on 05-04-2023

- Santosh Kumar (Head, University Department of Hindi) Kolhan University, Chaibasa
- Dr. Sriniwash Kumar
  Principal Department of Hindi
  J.L.N. College Chakradharpur
- Dr. Kishor Sahu
  HOD, Department of Hindi
  Tata College, Chaibasa
- Dr. Suchita Barda
  HOD Deepartment of Hidni
  Mahila College Chaibasa
- Dr. Suprabha Tuti
  HOD, Department of Hindi
  Kashi Sahu College Saraikela

8/05:04.23

(Chairman)



(Subject Expert)





(Member)



(Member)

#### PROVISIONAL SYLLABUS OF SEMESTER I UNDER FYUGP AS PER REVISED GUIDELINES OF NEP 2020 FOR ACADEMIC SESSION 2022-26

#### Semester 1

AEC-I हिन्दी व्याकरण एवं अनुवाद	2 (	Credits
पाठ्यक्रम के इस भाग के अधिगम परिणाम निम्वत होंगे— • विद्यार्थीगण हिन्दी व्याकरण एवं हिन्दी अनुवाद से परिचित होंगे दर्कार्ट – 1 क हिन्दी व्याकरण एवं उत्तरा – संज्या सर्वराम विशेषण किया	15	Lec. Hours
ख. उपसर्ग, प्रत्यय, संधि, समास इकाई – 2 प्रमुख प्रशासनिक/पारिभाषिक शब्द एवं उनके अनुवाद (हिन्दी से अंग्रेजी व अंग्रेजी से हिन्दी) वाक	य शुद्धि ४८	, पत्र लेखन,
अवदन, निबंध लखन	15	Lec. nours

6

### Semester-I/II/III -(MDC1/2/3)

#### **Course Title: Introduction to Statistics**

#### Max. Marks: 75

#### UNIT I

Introduction: Definition and scope of Statistics, concepts of statistical population and sample. Scales of measurement -nominal, ordinal, interval and ratio. Variables and attributes, Diagrammatical Representation of Data, Summarization of Data: Frequency Distribution and Graphical Presentation.

#### UNIT II

Measures of Central Tendency: mathematical and positional. Measures of Dispersion: range, quartile deviation, mean deviation, standard deviation, coefficient of variation, moments, measures of skewness and kurtosis.

#### UNIT III

Bi-variate data: Definition, scatter diagram, correlation, rank-correlation. Fitting of linear and quadratic regression using principle of least squares. Theory of attributes and consistency of data, independence and association of attributes, measures of association and contingency for 2x2 tables.

#### **Suggested Reading:**

- S. C. Gupta, V. K. Kapoor, 12<sup>th</sup> Edition, (2017), Fundamental of Mathematical Statistics, Sultan Chand & Sons.
- 2. Miller, I. and Miller, M. (2006). John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia.
- Mood, A. M. Graybill, F. A. and Boes, D.C. (2011). Introduction to the Theory of Statistics, 3<sup>rd</sup> Edn., (Indian Edition), Tata McGraw-Hill Pub. Co. Ltd.

#### KOLHAN UNIVERSITY, CHAIBASA FYUGP SEMESTER -I UNDER NEP SEC-1 (SKILL ENHANCEMENT COURSE) DIGITAL EDUCATION

#### **CREDITS: 03**

#### **Course Objectives:**

This course is specially designed for better understanding of digital education in India. The course has been designed to introduce key concepts in digital education to the students to sharpen their understanding of importance and significance of digital education in India. The students need to develop a critical thinking about the development of India in the background of expanding digital networks and our constant dependence on them in our day-to-day life.

#### Learning Outcome

- Students will understand the meaning of digital education and its importance.
- They will be able to focus on different digital platform, its utility and its applications.
- The students will be exposed to different tools of digital education available in India.
- They will understand the importance of E-Learning in the changing context of Digital India.
- They will come to know about their responsibility as citizen in digital growth in India.

#### **UNIT I: Introduction to Digital Education**

# Meaning & Evolution of Digital Systems. Role & Significance of Digital Technology, digital education vs traditional education, advantages and disadvantages of digital education.

#### **UNIT II: Digital Education Tools**

#### Information & Communication Technology & Tools Interactive tools- Microsoft Teams, Google Classroom, Linkedin Creative Tools - Google Slides, Google Spreadsheets, Google form, Youtube)

#### UNIT III: Digital Education in India (10 Classes + 5 Hands on Sessions)

Government initiatives for Digital education in India: SWAYAM, E-Pathshala, National digital library of India (NDL India), DigiLocker. Advantages & challenges in digital education in India.

#### **UNIT IV: E- Governance**

Introduction of E-Governance in India, Types of E-Governance-G2C (Government to Citizen), G2E (Government to Employee), G2B (Government to Business), G2G (Government to Government), E – Governance in Jharkhand.

## 5 Classes

(10 Classes+ 5 Hands on Sessions)

#### **10 Classes**)

#### **Suggested Readings:**

1. E-Governance in India: Initiatives and issues by R.P.Sinha

2. Information & Communication Technology (ICT) in Education by Dr. Vanaja M,Dr. S Rajasekar, Dr. S. Arulsamy.

3. Digital India: Understanding Information, Communication and Social Change by Pradip N.

#### **References:**

- 1. www.slideshare.net
- 2. <u>www.lisportal.com/en/lis-blog</u>

## **KOLHAN UNIVERSITY,**

## CHAIBASA



## Syllabus for FYUGP, NEP-2020 UG – Environmental Studies (2022 onwards)

**Designed by** 

Dr. Basant Shubhankar Assistant Professor Univ. Dept. of Chemistry KU, Chaibasa Dr. Shovit Ranjan Assistant Professor Univ. Dept. of Zoology KU, Chaibasa Dr. Nitish Kumar Mahato Assistant Professor Univ. Dept. of Zoology KU, Chaibasa

### **EXAMINATION FRAMEWORK FOR VAC-1**

Paper Type	Credits	Full Marks	Pass Marks	End Semester Examination
VAC(Theory)	2	50	20	50

#### END SEMESTER UNIVERSITY EXAMINATION (ESE):

• For End Semester Examination (ESE 50 marks, 2Hrs Exam), there will be two group of questions. Question No.1 will be very short answer type compulsory question in Group A consisting of five questions of 1 mark each. Group B will contain descriptive type five questions of fifteen marks each, Out of which any three are to answer.

### <u>Semester-I</u> <u>Course Title: Environmental Studies (VAC-1)</u> <u>THEORY (02 Credits)</u>

Unit	Content of Environment Studies	<b>30 Hours</b>								
Unit 1	Introduction to Environmental Studies	1 Hour								
	Components of environment: atmosphere, hydrosphere, lithosphere, and									
	biosphere; Scope and importance; Concept of sustainability and									
	sustainable development.									
Unit 2	Ecosystems	5 Hours								
	Definition and concept of Ecosystem. Structure of ecosystem (biotic and									
	abiotic components); Functions of Ecosystem: Physical (energy flow),									
	Biological (food chains, food web, ecological succession), and									
	Biogeochemical (nutrient cycling) processes. Concepts of productivity,									
	ecological pyramids and homeostasis. Types of Ecosystems.									
Unit 3	Natural Resources	5 Hours								
	Land resources; Soil erosion and desertification; Impacts of mining and									
	dam building on environment;									
	Water resources: Natural and man-made sources; Uses of water; Over									
	exploitation of surface and ground water resources; Floods, droughts, and									
	international & interstate conflicts over water;									
	Energy resources: Renewable and non-renewable energy sources; Use of									
	alternate energy sources.									
Unit 4	Biodiversity and Conservation	5 Hours								
	Definition of Biodiversity; Levels of biological diversity; Biodiversity									
	hotspots; Endemic and endangered species of India; IUCN Red list									
	criteria and categories; Threats to biodiversity; Biodiversity conservation									
	strategies: in-situ and ex-situ methods of conservation; National Parks,									
	Wildlife Sanctuaries, and Biosphere reserves; Biological Indicator									
	species.									
Unit 5	Environmental Pollution	4 Hours								
	Environmental pollution: causes, effects, and controls; Pollutants and it's									
	types; Nuclear hazards and human health risks; Solid waste management.									
Unit 6	Global Environmental Issues and Policies	5 Hours								
	Climate change, Global warming, Ozone layer depletion, and Acid rain;									
	International agreements and programs related to climate and									
	environmental issues; Sustainable Development Goals; Environment									
	legislation in India: Wildlife Protection Act, 1972; Water (Prevention and									
	Control of Pollution) Act, 1974; Forest (Conservation) Act 1980; Air									
	(Prevention & Control of Pollution) Act, 1981; Environment Protection									
	Act, 1986; Scheduled Tribes and other Traditional Forest Dwellers									
	(Recognition of Forest Rights) Act, 2006.									
Unit 7	Environment and Ecology (with reference to Jharkhand state)	5 Hours								
	Geographical feature: Soil, Climate, River, lakes, flora & fauna,									

National parks & Wildlife Sanctuaries, Polices & Programmes related to conservation of forest in context to Jharkhand.
 Industry in Jharkhand and its impact on Environment: large scale Industry (Iron & Steel, Mining & Mineral Extraction, Chemical & Explosive, Cement, Agro based and Automotive) and small-scale Industry (Handloom sector, Tassar & Lac industry, Sericulture, Stone industry).
 Mineral profile & Tourist Spots of Jharkhand (Hill Station, Waterfalls, Water spots, Religious Tourist Place, Cultural & Ethnic Tourist spots.

#### **Suggested Readings:**

- Gadgil, M., & Guha, R. 1993. This Fissured Land: An Ecological History of India. Univ. of California Press.
- Rao, M.N. & Datta, A.K. 1987. Waste Water Treatment. Oxford and IBH Publishing Co. Pvt. Ltd.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. Environment. 8th edition. John Wiley & Sons.
- Sengupta, R. 2003. Ecology and economics: An approach to sustainable development. OUP.
- Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.
- Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. Conservation Biology: Voices from the Tropics. John Wiley & Sons.
- Thapar, V. 1998. Land of the Tiger: A Natural History of the Indian Subcontinent.
- Warren, C. E. 1971. Biology and Water Pollution Control. WB Saunders.

Kolhan University, Chaibasa Four Year Undergraduate Programme (FYUGP) Common Courses, Code: VAC-1, Credits: 2, Sem-I

#### Value Added Course-1

### **Understanding India**

#### **UNIT I: Introducing India (2 lectures)**

I. The Land of India: landscape, mountains and rivers

II. The People of India: demography and languages

III. The Name of our Country: Jambudvipa, Sindhu (Indus), Inde, Hind, Hindustan, Bharat India

#### UNIT II: The Heritage of India: Unity in Diversity (10 lectures)

I. Architecture and Sculpture: Indus Valley town planning, rock cut architecture, major styles of temples, Mughal architecture, modern and contemporary architecture, stone and metal sculpture

II. **Painting:** Ajanta murals, Mughal paintings, Madhubani paintings, paintings of Jharkhand (Kohbar, Sohrai, Jadopatia, etc.).

III. **Music and Dance:** Overview of various forms of music and dances in India; Chau dance of Jharkhand and Odisha

IV. Science, Technology and Medicine: A general survey of the progress of science, technology and medicine in ancient India

#### UNIT III: The Knowledge System of India (4 lectures)

I. Traditional Knowledge System: Gurukuls, Pathsalas, Tols, Maktabs, Madrasas

II. Beginnings of Modern Education: Main features of British Government's educational policies

III. Growth of higher and technical education in India

#### **UNIT IV: The Indian Economy (4 lectures)**

I. Features of the Indian economy from past to present (agriculture, industry and trade)

#### UNIT V: The Making of Contemporary India (10 lectures)

I. The struggle for Independence (1885-1947)

- II. Framing of the Indian Constitution; Fundamental Rights and Duties
- III. India's Foreign Policy: Main Elements (Non Alignement, Panchsheel)

IV. Panchayati Raj in India with special reference to PESA in Jharkhand

#### **Suggested Readings**

NCERT, classes 6-12 books on History, Political Science, Economics, Geography etc.

A. L. Basham, A Cultural History of India, Oxford University Press, 1997

A.L. Basham, A Wonder that was India, Rupa, New Delhi, 1994

B.C. Deva, Indian Music, ICCR, 1976

Braj, B. Kachru, et.al., Languages in South Asia, Cambridge University Press, 2013

Hemant, Jharkhand, Prakashan Sansthan, New Delhi, 2008

Herman Kulke and Deitmar Rothermund, A History of India, Taylor and Francis, 2016

Krishna Chaitanya, A Profile of Indian Culture, The Indian Book Company, New Delhi, 1976

N.R. Ray, An Approach to Indian Art, Publication Bureau, Chandigarh, 1974

R.S. Sharma, India's Ancient Past, Oxford University Press, 2020

R.C. Majumdar (ed.), *History and Culture of Indian People* (Relevant Volumes and Chapters), Bhartiya Vidya Bhawan, Bombay.

S.C. Ghosh, History of Education in Modern India, 1758-1986, Orient Longman, Hyderabad, 1995

Romila Thapar, The Prnguin History of Early India: From the Origins to AD 1300, Penguin India, 2003

Tirthankar Ray, The Economic History of India 1857-1947, OUP, 2006

Vijay Joshi and I.M.D. Little, India's Economic Reforms, 1991-2001, OUP, 1996