



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
ML301	ODS	ENVIRONMENT AND ENERGY STUDIES	60	20	20	0	0	3	1	0	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To understand sources of information required for addressing environmental challenges
2. To identify a suite of contemporary tools and techniques in environmental informatics
3. To apply literacy, numeracy and critical thinking skills to environmental problem-solving

Course Outcomes (COs):

Students will be able:

1. To apply the principles of ecology and environmental issues that apply to air, land and water issues on a global scale.
2. To develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
3. To demonstrate ecology knowledge of a complex relationship between predators, prey, and the plant community.

Course Contents:

Unit I

Environmental Pollution and Control Technologies: Environmental Pollution & Control: Classification of pollution, Air Pollution: Primary and secondary pollutants, Automobile and industrial pollution, Ambient air quality standards. Water pollution: Sources and types, Impacts of modern agriculture, degradation of soil. Noise Pollution: Sources and Health hazards, standards, Solid Waste management composition and characteristics of e - Waste and its management. Pollution control technologies: Wastewater Treatment methods: Primary, Secondary and Tertiary.


Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore


Joint Registrar
Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Unit II

Natural Resources: Classification of Resources: Living and Non - Living resources, water resources: use and over utilization of surface and ground water, floods and droughts, Dams: benefits and problem, Mineral resources: use and exploitation, environmental effects of extracting and using mineral resources, Land resources: Forest resources, Energy resources: growing energy needs, renewable energy source, case studies..

Unit III

Ecosystems: Definition, Scope and Importance ecosystem. Classification, Structure and function of an ecosystem, Food chains, food webs and ecological pyramids. Energy flow in the ecosystem, Biogeochemical cycles, Bioaccumulation, ecosystem value, devices and carrying capacity, Field visits.

Unit IV

Biodiversity and its Conservation: Introduction - Definition: genetic, species and ecosystem diversity. Bio-geographical classification of India - Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values - . Biodiversity at global, National and local levels. - . India as a megadiversity nation - Hotspots of biodiversity - Threats to biodiversity: habitat loss, poaching of wildlife, manwildlife conflicts; Conservation of biodiversity: In-situ and Exsitu conservation. National biodiversity act.

Unit V

Environmental Policy, Legislation & EIA: Environmental Protection act, Legal aspects Air Act- 1981, Water Act, Forest Act, Municipal solid waste management and handling rules, biomedical waste management and handling rules, hazardous waste management and handling rules. EIA: EIA structure, methods of baseline data acquisition. Overview on Impacts of air, water, biological and Socio- economical aspects. Strategies for risk assessment, Concepts of Environmental Management Plan(EMP)

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

References:

1. Environmental Biology, Bikaner :Nidi Pub. Ltd. - Agarwal, K C (latest edition).
2. Hazardous Waste Incineration, McGraw Hill Inc. - Brunner R C (latest edition)
3. Marine Pollution, Clanderson Press Oxford (TB) - Clank R S(latest edition)
4. Environmental Encyclopedia, Jaico Pub. Mumbai,
5. Environmental Chemistry, Wiley Wastern Ltd. - De A K (latest edition)
6. Environmental Studies for Undergraduate Courses by for University Grants Commission , Erach Bharucha (2005).
7. Environmental Studies. Oxford University Press. , - R. Rajagopalan(2006)
8. Textbook of Environmental Sciences and Technology. BS Publication - M. Anji Reddy(2006)
9. Enviromental Science: towards a sustainable future PHL Learning Private Ltd. New Delhi. - Richard T. Wright(2008)
10. Environmental Engineering and science. PHI Learning Pvt Ltd. - Gilbert M. Masters and Wendell P. Ela .(2008)
11. Environmental Science Wiley INDIA edition.- Daniel B. Botkin& Edwards A. Keller(2008)
12. EnviromentalStudies. New age international publishers – AnubhaKaushik (2009)

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

Name of Program: BTBCE (Garment and Fashion Technology)											
SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTGF301	DCS	FUNDAMENTAL OF YARN MANUFACTURING	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To understand the processing of various fibres on yarn spinning system.
2. To conceptual knowledge on yarn manufacturing and gain knowledge to investigate reason of various problems and their solutions.

Course Outcomes (COs)

Student will be able

1. To understand the basic knowledge on yarn manufacturing system
2. To demonstrate their conceptual knowledge to solve the problem in Ring spinning system.
3. To investigate the reasons of various problems and their solution in Ring spinning system.

Course Contents:

Unit I

Object of Ginning, importance of the ginning to eliminate the contamination in the yarn; Objects of blow room. Principles of opening, cleaning and blending. Principal of blow room machines and blow room lines and recent developments in blow room machinery. Object of carding, principles of working, blending and objectives, types of blending, processing of manmade fibers in blow room and carding.

Unit II

Object of drawing, different drafting systems, monitoring and auto leveling of irregularities. Lap preparation, Lap former, Methods of Lap preparations and its

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

importance. Object of combing, principle of working, function of different motions, speeds; Object of speed frame, principle of working, Drafting, twisting winding.

Unit III

Objective of ring frame, Principle and mechanism involved in drafting, twisting and winding, Concept of twist multiplier, propagation of twist, types of rings and travelers and their common uses,

Unit IV

Yarn Numbering system, Yarn faults and their remedies, Reason and remedies of end breaks on ring- frame, Objects of doubling, System of doubling(dry and wet), Study of ring doublers, Two for one twister, Objects and production of fancy yarns

Unit V

Elementary idea about working principle of Rotor, Airjet, Friction Spinning, Airvortex Spinning, Structure, properties and end uses of these yarns, Potential and limitations of various spinning technology

List of Practical (Expand it if needed):

1. To study the different spinning machines for conversion of fibers into yarn.
2. To study the passage of material through Blow room machine sequence.
3. To study the passage of material through Carding machine.
4. To study the passage of material through Draw frame machine.
5. To study the passage of material through Comber machine
6. To study the passage of material through Speed frame machine.
7. To study the passage of material through Ring Frame machine.
8. To study the passage of material through Rotor machine.
9. To study the passage of material through Air jet machine.
10. To study the passage of material through Ring Doubler machine.

References:

1. Handbook of yarn production -Lord
2. The Textile Institute – Short Staple Spinning Series - Klein
3. Cotton Spinning Calculations - Taggart
4. Spun Yarn Tech. Vol. 3 - Venkatasubramani
5. Elements of Carding & Drawing - Khare A R
6. Elements of Combing - Khare A R

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

Name of Program: BT-ECET (Garment and Fashion Technology)											
SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTGF302	DCS	FUNDAMENTAL OF FABRIC MANUFACTURING	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To understand the process of manufacturing various fabrics on conventional and advance weaving machines.
2. To demonstrate their conceptual knowledge to solve the problem in fabric manufacturing.

Course Outcomes (COs)

Student will be able

1. Understand the various types of fabric manufacturing systems.
2. To apply their knowledge on the production, processing of various fabrics and analyse the problem of various faults occurring in fabric manufacturing.
3. To apply their knowledge for setting of m/c for the manufacturing of various fabrics.

Course Contents:

Unit I

Principles of weaving. Primary, Secondary and Auxiliary motions. Handloom and power loom, shedding - positive and negative, shedding by tappets, dobby and jacquard.

Unit II

Picking - classification, Mechanism of over and under pick motions, causes of shuttle flying and shuttle trap. Beat-up mechanism, sley eccentricity, Timing diagram of primary motions.

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Unit III

Classification of take-up motion, 7 wheel take-up motion, Negative let-off motion, Causes of pick spacing variation. Continuous type take up motion. Temples - types and uses, Different temples used in manufacturing of different types of fabric.

Unit IV

Classification of weft stop motion - side and centre weft fork motion, Warp stop motion.

Unit V

Automatic looms and General idea about shuttleless weaving like Projectile, Rapier, Air-jet and Water-jet loom.

List of Practical (Expand it if needed):

1. To Study the warp yarn passage through plain loom.
2. To Study the construction and working of shedding motion
3. To Study the construction and working of picking mechanism.
4. To Study the construction and working beat-up mechanism
5. To Study the negative let-off mechanism.
6. To Study the take-up mechanism.
7. To Study the construction and working of side weft fork motion.
8. To Study the construction and working of warp stop motion.
9. To Study of automatic loom.
10. To Study of shuttleless loom – Rapier loom

References:

1. Plain Weaving Motions - Aswani
2. Weaving Mechanism Vol. -1 - Bannerjee N N
3. Weaving - Talukdar M K
4. Principles of Weaving - Marks & Robinson
5. Weaving Mechanism - Fox
6. Woven Fabric Production Vol. I - NCUTE Study Material.
7. Woven Fabric Production Vol. II - NCUTE Study Material.

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTGF303	DCS	FABRIC STRUCTURE AND DESIGN	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Understand and design basic fabric structures (like plain, twill and satin structures as per specifications.
2. Identify and differentiate different derivatives of basic weaves and their effect in fabric.
3. Student will be able to identify and differentiate simple and compound fabric structures accurately.

Course Outcomes (COs)

Student will be able

1. Make and develop new woven fabric design
2. Make honeycomb, welt structures.
3. Solve technical problems related to basic fabric structures on the loom.
4. Provide suitable draft and pegplan for a given weave & utilise available resources for making designs.

Course Contents:

Unit I

Fabric classification, weave notation and weave repeat, Introduction to design, drafting and peg-plan systems and their relationship, plain weave and its derivatives e.g. warp rib, weft rib and hopsack / matt.

Unit II

Twill weave - its different types and derivatives e.g., pointed, curved, broken, elongated, transposed, fancy and cork-screw, Satin and sateen weaves - regular and irregular.

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Unit III

Diamond, Honeycomb - ordinary honeycomb and Brighton honeycomb, Mock leno, Huck-a-back, crepe weave, different types of bedford cord, welt and pique.

Unit IV

Twill angle and yarn twist angle, Effect of yarn twist direction on the prominence of twill lines in the fabric

Unit V

Backed fabrics- warp and weft backed fabrics and reversible backed fabrics, double cloth and its varieties. Color and weave effects - stripes and checks.

List of Practical (Expand it if needed):

1. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of Plain weave
2. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of warp rib
3. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of twill weave
4. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of herringbone twill weave
5. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of Diamond weave
6. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of satin weave
7. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of sateen weave

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

8. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given fabric sample of Brighton honey comb weave
9. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given Double cloth fabric sample
10. To find out EPI, PPI, Count, Warp Crimp , Weft Crimp, & GSM of given warp & weft backed fabric sample

References:

1. Watsons' Textile Design & Color - Grosicki
2. Grammar of Textile Design - Nisbet
3. Structural Fabric Design - Klibbe
4. Textile Weaving & Design - Murphy W S
5. Mary Humphries Fabric Glossary.

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

Name of Program: BTGEC (Garment and Fashion Technology)											
SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTGF304	DCS	GARMENT CONSTRUCTION - I	60	20	20	30	20	3	0	2	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To impart knowledge of sewing machines and types of stitches and work aids
2. To provide knowledge on the size of garments
3. To classify the sewing and cutting machine according to end use and application.

Course Outcomes (COs)

Student will be able

1. Students will be able to stitch the garments
2. Check and detect the defects in sizing and its requirement
3. Can supervise the kind of needle and thread required according the type of fabric

Course Contents:

Unit I

Introduction to sewing, History of sewing machines, components and Basic parts of the sewing machine with their function, types of seams, stitches and their classification.

Unit II

Elements and Functions of Clothing-Garment Analysis and Its Classification - Measurement and Size Charts for Men, Women and Children - Requirement and Breakdown of Garments Flow Process

Unit III

Classification of sewing machine, cutting machines and finishing equipments and their applications, Defects and remedies.

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Unit IV

Needles and threads, types of needle and their application, thread construction, thread count, ticket number, factors affecting characteristics of thread, thread finishes, thread packages, thread properties and seam performance, SPI

Unit V

Workaids- Machine beds, tables, chairs, Bundle clamp, Stackers etc.

List of Practical (Expand it if needed):

1. To study the flow chart of Garment Process Line
2. To study spreading and layering techniques of fabric
3. To study sewing machine and its parts
4. To study types of stitches
5. To study types of seams
6. To study tension variation and SPI regulation and its effect on different fabrics (Plain, Twill, Sateen, etc)
7. To study workaids used in sewing machine
8. To study the breakdown of shirt -flow process
9. To study the breakdown of trouser -flow process
10. To study the breakdown of jacket- flow process

References:

1. Pattern making for fashion design - h.g. Armstrong
2. Metric pattern cutting - Winifred Aldrich
3. Pattern making made easy - gollian Holman
4. Technology of clothing manufacture - Carr & Latham
5. Apparel manufacturers handbook - Jacob solinger

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTGF305	DCS	YARN AND FABRIC STUDIES	0	0	0	0	50	0	1	2	2

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To provide knowledge of various types of yarn.
2. To give exposure to the various types of woven, knitted and non-woven fabric

Course Outcomes (COs):

Student will be able:

1. To identify and analyse the various types of yarn and fabric
2. To solve the various ambiguities among the various types of fabric
3. To distinguish the requirement for the various types of yarn and fabrics

List of Practical (Expand it if needed):

1. To collect and study of various types of single yarns
2. To collect and study of various types of double yarns
3. To collect and study of various types of synthetic yarns
4. To collect and study of various types of fancy yarns
5. To collect and study of various types of woven fabrics
6. To collect and study of various types of knitted fabrics
7. To collect and study of various types of non-woven fabrics
8. To collect and study of various types of packages
9. To collect and study of various types of Industrial fabrics

Note: Students will study various types of yarns and fabrics during one day mill Visit and also study various aspects about the same in the department workshops/labs as assign by the concern faculties.

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of Program: B.TECH (Garment and Fashion Technology)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS207	ODS	COMPUTER PROGRAMMING –II	0	0	0	30	20	0	0	2	1

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:

1. To understand Object oriented concepts.
2. To understand programming using object oriented techniques.
3. To understand the use of various system libraries.
4. To have the knowledge of important topics and principles of software development.
5. To write a computer program & to solve specified problems.
6. To use the Java SDK environment to create, debug and run simple Java programs.
7. To study event driven Graphical User Interface (GUI) programming

Course Outcomes:

1. Students should be able to explain the object oriented concepts.
2. Students should be able to write programs using object-based programming techniques including classes, objects and inheritance.
3. Able to use of various system libraries.
4. Be aware of the important topics and principles of software development.
5. Have the ability to write a computer program to solves pecified problems.
6. Be able to use the Java SDK environment to create, debug and run simple Java programs.
7. Introduce event driven Graphical User Interface (GUI) programming

UNIT-I

Java Fundamentals: Features of Java, OOPs concepts, Java virtual machine, Byte code interpretation Data types, variable, arrays, expressions, operators, and control structures, Objects, Introduction to Class: Instance members and member functions, constructors, constructor overloading, Static Method, Static classes, Inner classes

Chairperson
Board of Studies

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore

Joint Registrar

Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

UNIT-II

Introduction to Java classes and objects: Java features: Java syntax, data types, data type conversions, control statements, operators and their precedence. Introduction to Class: Instance members and member functions. Inner Classes, String Handling, Wrapper classes

UNIT-III

Inheritance, Polymorphism and Collection: Class relationships: Inheritance and its types, Merits and Demerits. Association, Association inheritance, Polymorphism: Dynamic method dispatch, Runtime polymorphism, Abstract classes, Interfaces and packages, Collections.

UNIT-IV

Exception Handling and Multithreading: Exceptions: Need for exceptions, Exception hierarchy: Checked Unchecked exceptions, Try, catch, finally, Throw, throws, creating exceptions.

Multithreading: Thread Life cycle, Multi threading advantages and issues, Simple thread program, Priorities and scheduling, Thread Synchronization.

UNIT-V

Java I/O, Applets, Event Handling, and Database Connectivity: Basic concept of streams I/O stream & reader-writer classes. File handling. Applet and its Life Cycle, Basic GUI elements, Event Delegation Model and event handling Swing components: Applet, JButton, JFrame, etc. Sample swing programs JDBC architecture, establishing connectivity and working with connection interface working with statements, Creating and executing SQL statements, working with Result Set

References:

1. Java- Head First 2nd edition Kathy Sierra , Bert Bates.
2. Programming with Java A Primer, E. Balaguruswamy Tata McGraw Hill Companies.
3. Java Programming John P. Flynt Thomson 2nd.
4. Java Programming Language Ken Arnold Pearson.
5. The complete reference JAVA2, Hervert schildt. TMH.
6. Big Java, Cay Horstmann 2nd edition, Wiley India Edition.
7. Java – Balaguruswamy.

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Practical's List:

1. Installation of J2SDK
2. Write a program to show Scope of Variables
3. Write a program to show Concept of CLASS in JAVA
4. Write a program to show Type Casting in JAVA
5. Write a program to show How Exception Handling is in JAVA
6. Write a Program to show Inheritance
7. Write a program to show Polymorphism
8. Write a program to show Access Specifiers (Public, Private, Protected) in JAVA
9. Write a program to show use and Advantages of CONTRUCTOR
10. Write a program to show Interfacing between two classes
11. Write a program to Add a Class to a Package
12. Write a program to show Life Cycle of a Thread
13. Write a program to demonstrate AWT.
14. Write a program to Hide a Class
15. Write a Program to show Data Base Connectivity Using JAVA
16. Write a Program to show "HELLO JAVA" in Explorer using Applet
17. Write a Program to show Connectivity using JDBC
18. Write a program to demonstrate multithreading using Java.
19. Write a program to demonstrate applet life cycle.
20. Write a program to demonstrate concept of servlet.

**Chairperson
Board of Studies**

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**

Joint Registrar

**Shri Vaishnav Vidyapeeth Vishwavidyalaya
Indore**