**Unitized Syllabus for the month of Dec*-*2024**

**Duration**: Theory - 1 hr; Practical – 2 hrs; Experiential learning – 3 hrs

**Venue**: 24 hr Class room (Adjacent to Digital Library)

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| **Research Methodology; Module 1:** Research Basics  **Module Learning Objectives** (At the end of the module, the students should be able to):  1. Describe the importance of evidence-based medicine, its levels, and the research process  2. Conduct literature review and critical appraisals of articles  3. Identify a research problem  4 .Frame research question, hypotheses and objectives | | | | | | | | | | | | | | |
| **Sl.no** | **Date** | **Day** | **Time** | **Unit – 1**  Overview of research process and evidence-based medicine  **References**: 1,2,3  **Class details** | Number of Credits | Course Outcome | Lecture/ Practical Training/ Experiential Learning | Teaching faculty | Domain / Sub Domain | **Level**  (Does / Shows how / Knows how / Know) | Teaching Learning Methods | Marks allotted | | |
|  | 06-12-2024 | **Fri** | 9 – 10 am | **Departmental Postings** | --- | | | Respective dept HoD | --- | | | | | |
|  | 10–11 am | Describe research process and importance of evidence-based medicine | 1 | CO1, CO2, CO3 | Lecture | **DR. VELHAL** | CC | Knows how | L&PPT | 20 | | |
|  | 11-1 pm | Elaborate the current status of Ayurveda medicine research | 2 | CO1, CO2, CO3 | Practical Training 1.1 | **DR. VELHAL** | PSY GUD | Knows how | PBL |
|  | 1. 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Identify the level of evidence in Ayurveda research | 2 | CO1, CO2, CO3 | Experiential Learning 1.1 | **DR. VELHAL** | CC | Knows how | CBL,DIS |
|  | | | | **Unit 2**  Research methods in Ayurveda Medicine  **References**: 4 |  | | | | | | |
|  | 07-12-2024 | **Sat** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |
|  | 10–11 am | Appreciate research concepts in Ayurveda medicine system | 1 | CO1, CO2,  CO3 | Lecture | **DR. VELHAL** | CC | Knows how | FC |
|  | 11-1 pm | Demonstrate different research concepts in Ayurveda medicine systems with examples | 2 | CO1, CO2, CO3 | Practical Training 1.2 | **DR. VELHAL** | PSYGUD | Shows how | DIS, Pr BL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | | | | **Unit 3**  Literature search and critical appraisal of literature.  **References**: 5 |  | | | | | | | | | |
|  | 09-12-2024 | **Mon** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |  | | |
|  | 10–11 am | Describe the systematic approach of literature search using biomedical databases, search engines and software | 1 | CO1, CO2, CO3 | Lecture | **DR. VELHAL** | CC | Knows how | L&PPT |
|  | 11-1 pm | Demonstrate literature search in medical databases | 2 | CO1, CO2, CO3 | Practical Training 1.3 | **DR. VELHAL** | PSYGUD | Shows how | D,DIS |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Conduct a literature search for a given scenario | 3 | CO1, CO2, CO3 | Experiential Learning 1.3 | **DR. VELHAL** | PSY-GUD | Shows how | BS |
|  | | | | **Unit 4**  Identification of research problem  **References**: 6,7 |  | | | | | | | | | |
|  | 10-12-2024 | **Tue** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |  | | |
|  | 10–11 am | Describe the methods for identifying the research problem | 1 | CO1,CO2,CO3 | Lecture | **DR. VELHAL** | CC | Knows how | L&PPT |
|  | 11-1 pm | Enlist different ways of identifying the research problem | 2 | CO1,CO2,CO3 | Practical Training 1.4 | **DR. VELHAL** | PSY-GUD | Shows how | PBL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Identify the research problem | 3 | CO1,CO2,CO3 | ExperientialLearning 1.4 | **DRVELHAL** | CAN | Shows how | CBL |
|  | | | | **Unit 5**  Research question and Hypothesis  **References: 8** |  | | | | | | | | | |
|  | 11-12-2024 | **Wed** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | | | | |
|  | 10–11 am | Define and explain characteristics of good research question, hypotheses- types and formulation, framing objectives | 1 | CO1,CO2,CO3 | Lecture | **DR. VELHAL** | CC | Knows how |  |  | | |
|  | 11-1 pm | Demonstrate the qualities of good research questions (PICO/T and FINER approach), Demonstrate the importance of framing appropriate hypotheses and pertinent objectives. | 2 | CO1,CO2,CO3 | Practical Training 1.5 | **DR. BAGALE** | PSY-GUD | Shows how |  |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |  | | |
|  | 2 - 5 pm | **General Seminar** | | | | | | | |
|  | 17-12-2024 | **Tue** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |  | | |
|  | 11-1 pm | List out the challenges and probable solutions in Ayurveda medicine research | 2 | CO1, CO2, CO3 | Experiential Learning 1.2 | **DR. BAGALE** | PSYGUD | Shows how | BS, PrBL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | **Modular Assessment Test (25 marks) –** 3 hrs Conducting by DR.BAGALE | | | | | | | |  | | |
|  | **Evaluation based on following checklists**  • PICOT / FINER criteria  • Self-explanatory • H0 & H1 (where applicable)  • Primary & secondary objectives, their clarity, and relevance to the study | | | | | | | |
| **Biostatistics; Module 1**  **Module Learning Objectives (At the end of the module, the students should be able to):**  1. Explain the fundamentals of Statistics and its application to the biomedical field (Biostatistics). Use and misuse of Statistics.  2. Define various types of data and variables.  3. Identify the data type apply, and interpret descriptive statistics to summarize the characteristics of a data set. | | | | | | | | | | | | | | |
|  | 18-12-2024 | **Wed** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | | | | |
|  | 10–11 am | Define Statistics and Describe the concepts of Biostatistics. Use and misuse of Statistics | 1 | CO1, CO2, CO3 | Lecture | **Dr.GOPAL** | CK | Know | L&PPT | 10 | | |
|  | 11-12 pm | Explain the data, variables, and their types | 1 | CO1, CO2, CO3 | Lecture | **Dr.GOPAL** | CK | Knowshow | L&PPT |
|  | 12-1 pm | Explain different methods of Presentation of data | 1 | CO1, CO2, CO3 | Lecture | **Dr.GOPAL** | CE | Knowshow | L&GD |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | | | | |
|  | 2 - 5 pm | **General Seminar** | | | | | | | | | | |
|  | 19-12-2024 | **Thur** | 9 – 10 am | **Departmental Postings** | --- | | | Respective dept HoD | --- | | | | | |
|  | 10–12 am | Construct the tables (tabulate) with one or more factors of classification manually /Statistical tool/software (Frequency distributions) | 2 | CO1, CO2, CO3 | Practical Training 1.2 | **DR.GOPAL** | PSYMEC | Does | PBL |
|  | 12-2 pm | Appraise to enter, clean, group, and code for given data sets in Excel and other statistical software. | 2 | CO1, CO2, CO3 | Practical Training 1.1 | **DR.GOPAL** | PSYMEC | Shows how | EDU,L& GD |  |
|  | 1. 2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Collect, enter, clean, and manually tabulate data collected/ statistical tool/ software. | 3 | CO1, CO2, CO3 | Experiential Learning 1.1 | **Dr.GOPAL** | PSY-SET | Shows how | PSM |  | |
|  | 20-12-2024 | **Fri** | 9 – 10 am | **Departmental Postings** | --- | | | **Respective dept HoD** | --- | | | | |
|  | 10–11 am | Represent the quantitative and qualitative data Diagrammatically | 1 | CO1,  CO2,  CO3 | Lecture | **DR.GOPAL** | CK | Know | L&PPT |  | |
|  | 11-1 pm | Graphically (Cumulative frequency distributions and their Graphical representation, Histogram, Frequency Polygon, Frequency Curve, Ogives, Population Pyramid and Box Plot) | 2 | CO1,  CO2,  CO3 | Practical Training 1.3 | **DR.GOPAL** | PSY-GUD | Shows how | PBL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | | | |
|  | 2-5 pm | Data collection, enter, cleaning, tabulation, and graphically/ diagrammatically present the data collected manually/ statistical tool/ software | 3 | CO1,  CO2,  CO3 | ExperientialLearning 1.2 | **DR.GOPAL** | PSY-SET | Shows how | PBL |  | |
|  | 21-12-2024 | **Sat** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | | | |
|  | 10–11 am | Explain the Measures of Central Tendency | 1 | CO1,  CO2,  CO3 | Lecture | **DR.GOPAL** | CAP | Know show | L&PPT |  | |
|  | 11-1 pm | Mean (arithmetic, geometric, harmonic) | 2 | CO1,  CO2,  CO3 | Practical Training 1.3 | **DR. GOPAL** | PSY-GUD | Shows how | PBL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |  | |
|  | 23-12-2024 | **Mon** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | | | |
|  | 10–11 am | Median, Mode & Proportion. | 1 | CO1,  CO2,  CO3 | Lecture | **Dr.GOPAL** | CAP | Know show | L&PPT |  | |
|  | 11-1 pm | Calculate and Demonstrate measures of Central tendency using different sets of data (5 each) | 2 | CO1,  CO2,  CO3 | Practical Training 1.4 | **DR.GOPAL** | PSY-SET | Shows how | PSM |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Collect, enter, clean, and compute measures of central tendency manually/ statistical tool/ software | 3 | CO1,  CO2,  CO3 | ExperientialLearning 1.3 | **DR.GOPAL** | PSY-SET | Shows how | PAL |
|  | 24-12-2024 | **Tue** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |  | |
|  | 10–11 am | Explain the measures of Dispersion - Range, Quartile deviation, Mean | 1 | CO1,  CO2,  CO3 | Lecture - | **DR.GOPAL** | CK | Knows | L&PPT |
|  |  | 11-1 pm | Calculate and Demonstrate measures of Dispersion using different sets of data | 2 | CO1,  CO2,  CO3 | Practical Training 1.5 | **DR.GOPAL** | D | Shows how | PSY-SET |  | |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-5 pm | Collect, enter, clean data with computing measures of dispersion with manually/ statistical tool/ software | 3 | CO1,  CO2,  CO3 | ExperientialLearning 1.4 | **DR.BAGALE** | C\_L, D, DI S, PT, PrB L | Shows how | PSY-SET |
|  | 26-12-2024 | **Thur** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |
|  | 10–1pam | Collect, enter, clean, present, and compute descriptive data analysis for one quantitative and qualitative variable manually/tool/software. | 3 | CO1,  CO2,  CO3 | ExperientialLearning 1.5 | **DR.BAGALE** | PAL | Does | PSYGUD |  | |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |  | |
|  | 2-5 pm | **Modular Assessment Test (**25 marks**) –** 3 hrs   1. Practical structured Viva (10 viva questions including all the topics of module 1. – 20 Marks) 2. Practical Record Book – 5 Marks | | | | | | | |  | |
|  | **Research Methodology;**  **Module 2 : Ethics and Regulatory Aspects in Research**  **Module Learning Objectives** (At the end of the module, the students should be able to):  1 Illustrate basic principles of research ethics  2 Describe the composition and role of the research ethics committee  3 Appraise the Pharmacovigilance program for Ayurveda medicine and ADR reporting  4 Describe various types of IPR and patent process | | | | | | | | | | | | |
|  |  | | | **Unit 1: Basics of Ethics and Ethics Guidelines**  **References**: 9,10,11,12,13 | | | | | | | | | |
|  | 27-12-2024 | **Fri** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | | 10 | |
|  | 10–11 am | Describe the history, need, role, and fundamental principles of ethics in research related to Humans and Animals. | 1 | CO5 | Lecture | **Dr. VELHAL** | CC | Know show | FC,L\_VC |
|  | 11-12 pm | Explain the history and contents of ICMR, ICH-GCP and GCP-Ayurveda medicine guidelines. | 1 | CO5 | Lecture | **Dr.VELHAL** | CC | Know show | L&PPT |
|  | 12-1 pm | Comprehend the contents of ICMR, ICH-GCP and GCP-Ayurveda medicine guidelines including the process of Clinical trial registration | 1 | CO5 | Practical Training 2.1 | **Dr.VELHAL** | PSY GUD | Shows how | DIS, PER |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | |
|  | 2-3 pm | Enlist cases where the principle of autonomy and justice is upheld and compromised. | 1 | CO5 | Practical Training 2.2 | **Dr.BAGALE** | PSY-SET | Shows how | PBL |
|  | 3-4 pm | Enlist cases where principles of beneficence/non-maleficence are upheld and compromised | 1 | CO5 | Practical Training 2.3 | **Dr..BAGALE** | PSY-SET | Shows how | PBL |
|  | 4-5 pm | Demonstrate the ethical principles by developing a case scenario. | 1 | CO5 | ExperientialLearning 2.1 | **Dr.VELHAL** | AFT  VAL | Shows how | CBL |
|  | 28-12-2024 | **Sat** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |  | |
|  | 10–11 am | Identify the ethical principles in a given case scenario. | 1 | CO5 | ExperientialLearning 2.2 | **Dr.VELHAL** | AFT  VAL | Shows how | DIS, RP |
|  |  | | | **Unit 2;** Institutional Ethics Committees Institutional Ethics Committees  (Human and Animal) - constitution and review process  **References**: 14,15,16,17 | | | | | | | | | |
|  |  |  | 11-12 pm | Explain the constitution, composition of the Institutional human and animal ethics committee. | 1 | CO5 | Lecture | **Dr.BAGALE** | CC | Knowshow | L&PPT |  | |
|  | 12-1 pm | Explain the registration and regulation of the Institutional human and animal ethics committee. | 1 | CO5 | Lecture | **Dr.BAGALE** | CC | Knowshow | L&PPT |
|  | 1- 2 pm | **LUNCH BREAK** | | | | | | | |
|  | 30-12-2024 | **Mon** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |
|  | 10–11 am | Explain the review process of the Institutional human and animal ethics committee | 1 | CO5 | Lecture | **Dr.VELHAL** | CC | Knowshow | L&PPT |
|  | 11-1 pm | Construct the composition of the ethics committee through different case scenarios. | 2 | CO5 | Practical Training 2.4 | **Dr.VELHAL** | PSY-SET | Shows how | CBL |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | | | |
|  | 2-5 pm | Enlist the elements of the review process through different case scenarios | 3 | CO5 | Practical Training 2.5 | **DrVELHAL** | PSY-SET | Shows how | CBL |  | |
|  | 31-12-2024 | **Tues** | 9 – 10 am | **Departmental Postings** |  | | | Respective dept HoD |  | | |
|  | 10–11 am | Ethical issues specific to Ayurveda medicine research | 1 | CO5 | Lecture | **Dr.VELHAL** | CC | Knowshow | L&PPT |
|  | 11-1 pm | Identify ethical issues specific to Ayurveda medicine research through different case scenarios. | 2 | CO5 | Practical Training 2.6 | **Dr. BAGALE** | PSY-SET | Shows how | CBL, PBL , RP |
|  | 1-2 pm | **LUNCH BREAK** | | | | | | | | | |
|  | 2-5 pm | Demonstrate the review process of IHEC | 3 | CO5 | ExperientialLearning 2.3 | **DR.BAGALE** | AFTVAL | Shows how | PBL, RP |  | |
|  | |

**Principal**

**Dean, PG Studies**

**HOD**

**Dept of Research Methodology & Medical Statistics**