



UNIVERSITY OF CALICUT

Abstract

General and Academic IV - Faculty of Science - Integrated MSc Psychology Programme - Scheme and Syllabus from first to sixth semester - From 2021 admission onwards - Approved by Vice Chancellor subject to ratification by the Academic Council - Orders issued

G & A - IV - J

U.O.No. 13761/2022/Admn

Dated, Calicut University.P.O, 15.07.2022

- Read:-*1. Item No. 1 in the minutes of the meeting of Board of Studies in Psychology (UG) held on 22.06.2022
2. Remarks of Dean, Faculty of Science dated 07.07.2022
3. Orders of Vice-Chancellor in the file of even no. dated 08.07.2022
4. U.O.No. 13693/2022/Admn dated 14.07.2022

ORDER

1. Vide paper read (4) above, orders were issued, implementing the scheme and syllabus of Integrated M.Sc Psychology Programme, from first to sixth semester, for 2020 admission.
2. Vide paper read (1) above, the Board of Studies in Psychology (UG), has decided to opt the General Courses of Group 4 under Language Reduced Pattern (LRP) in Clause 6.5 of CBCSS Integrated Regulations 2020, for Integrated MSc Psychology, from 2021 admission onwards and approved the scheme and syllabus of Integrated MSc Psychology, till sixth semester, by incorporating the General Courses in third and fourth semester, in the scheme of the programme.
3. The decision of Board of Studies have approved by Dean, Faculty of Science vide paper read (2) above and then by the Vice Chancellor, subject to ratification by the Academic Council, vide paper read (3) above.
4. Sanction has, therefore, been accorded to implement the scheme and syllabus of Integrated M.Sc Psychology Programme, from first to sixth semester, from 2021 admission onwards, subject to ratification by the Academic Council.
5. Orders are issued accordingly.(Syllabus appended)

Ajitha P.P

Joint Registrar

To

Principals of affiliated colleges offering Integrated M.Sc Psychology Programme
Copy to : PS to VC/PA to PVC/PA to R/PA to CE/JCE I/JCE V/GA I F Section/SF/DF/FC

Forwarded / By Order

Section Officer

CHOICE BASED CREDIT AND SEMESTER SYSTEM (CBCSS)

UNIVERSITY OF CALICUT

**REVISED CURRICULUM FOR INTEGRATED M Sc PSYCHOLOGY
(2021 ADMISSION ONWARDS)**

Under

Calicut University Regulations for Choice Based Credit and Semester System

COMBINED BOARD OF STUDIES IN PSYCHOLOGY (UG and PG)

S. I NO	NAME	DESIGNATION & OFFICIAL ADDRESS
1	Dr. Baby Shari. P. A (CHAIRPERSON, PG Board of Psychology)	Professor, Department of Psychology, University of Calicut
2	Dr. K. Manikandan (Member, PG Board of Psychology)	Professor, Department of Psychology, University of Calicut.
3	Dr. Nice Mary Francis P (CHAIRPERSON, UG Board of Psychology)	Assistant Professor, Department of Psychology Prajyoti Niketan College Pudukad
4	Dr. Suresh A. K (Member,UG Board of Psychology)	Assistant Professor of Psychology, SCAM G C Kuttanallur, Thrissur
5	Soumya Mohan (Member,UG Board of Psychology)	Asst. Professor of Psychology SCAM G C Kuttanallur, Thrissur
6	Mohamed Junaid Member,UG Board of Psychology)	Assistant Professor Department of Psychology Govt College, Mangada
7	Dr Sukanya B Menon Member,UG Board of Psychology)	Assistant Professor Department of Psychology Prajyoti Niketan College, Pudukad
8	Dr. Vijith (Member, PG Board of Psychology)	Asst. Professor of Psychology, Govt. College, Mangada.
9	Dr. Sujisha T. G (Member, PG Board of Psychology).	Asst. Professor of Psychology SCAM G C kuttanallur, Thrissur.
10	Dr. Jaya A. T (Member, PG Board of Psychology)	Assistant Professor Department of Psychology Prajyoti Niketan College, Pudukad

Integrated MSc Psychology (2021 admission onwards)

SEMESTER I

SEMESTER-I	Course No	Courses	Course code	Course Title	Hours/Weeks	Credit
	1	Common course-1		English-I	4	3
	2	Common course-2		English-II	5	3
	3	Common course-3		Language other than English/Additional language-I	5	4
	4	Core course-1	PSY1IBO1	Basic themes in Psychology-I	3	3
	5	1 st Allied core-1		Human Physiology	4	3
	6	2 nd Allied Core-2		Psychological Statistics	4	3
	7	Audit course		Environmental Studies	-	-
Total					25	19

***Course with 4 credits which is not meant for class room study and its credits are not counted for CGPA or SGPA.**

SEMESTER II

SEMESTER-II	Course no	Courses	Course Code	Course Title	Hours/Weeks	Credit
	1	Common course-4		English-III	4	4
	2	Common course- 5		English-IV	5	4

	3	Common course-6		Additional Language II	5	4
	4	Core course-2	PSY2IB01	Basic themes in Psychology-II	3	3
	5	1 st Allied Core-2		Human Physiology	4	3
	6	2 nd Allied Core-2		Psychological Statistics	4	3
	7	Audit Course		Disaster Management	-	-
Total					25	21

***Course with 4 credits which is not meant for class room study and its credits are not counted for CGPA or SGPA.**

SEMESTER III

SEMESTER-III	Course No	Courses	Courses code	Course title	Hours/week	Credits
	1	General course -1	A-11	Biodiversity – Scope And Relevance	4	4
	2	General course II	A-12	Research Methodology	4	4
	3	Core course -3	PSY3IB01	Developmental Psychology-I	3	3
	4	Core lab -1	PSY4IH01	Experimental Psychology -I	4	Exam will be in 4 th Sem
	5	1 st Allied Core -3		Human Physiology	5	3
	6	2 nd Allied Core -3		Psychological Statistics	5	3
	7.	Audit Course		Human Rights/Intellectual Property Rights/Consumer Protection*		
Total					25	17

***Course with 4 credits which is not meant for class room study and its credits are not counted for CGPA or SGPA**

SEMESTER IV

SEMESTER-IV	Course no	Courses	Course code	Course title	Hours/week	Credits
	1	General course -3	A 13	Natural Resource Management	4	4
	2	General course -4	A-14	Intellectual property rights	4	4
	3	Core course -4	PSY4IB01	Developmental Psychology- II	3	3
	4	Core lab -1	PSY4IH01	Experimental Psychology –I	4	4**
	5	1 st Allied Core -4		Human Physiology	5	3
	6	2 nd Allied Core -4		Psychological Statistics	5	3
	7	Audit Course		Gender Studies/Gerontology*	-	-
Total					25	21

***Course with 4 credits which is not meant for class room study and its credits are not counted for CGPA or SGPA**

**External examination will be conducted at the end of IVth semester.

SEMESTER V

SEMESTER - V	Course no	Courses	Course code	Course Title	Hours/weeks	Credits
	1	Core course -5	PSY5IB01	Abnormal Psychology- 1	4	4
	2	Core course-6	PSY5IB02	Social psychology	3	3
	3	Core course -7	PSY5IB03	Psychological counselling-I	3	3
	4	Core course-8	PSY5IB04	Organizational behaviour	4	4
	5	Open course	PSY5ID01/PSY5 ID02	Open course	3	3
	6	Core lab- II	PSY6IH01	Experimental Psychology - II	4	*
	7	Core lab-III	PSY6IH02	Experimental Psychology - III	4	*
Total					25	17

*Exam will be at the VI Sem

**Evaluation at the end of VI Sem

SEMESTER VI

SEMESTER-VI	Course no	Courses	Course code	Course Title	Hours/Weeks	Credits
	1	Core course-9	PSY6IB01	Abnormal Psychology-II	4	4
	2	Core course-10	PSY6IB02	Applied Social Psychology	4	4
	3	Core course-11	PSY6IB03	Psychological counselling-II	3	3
	4	Core course-12	PSY6IB04	Positive Psychology	3	3
	6	Practical/lab-II	PSY6IH01	Experimental Psychology - II	4	4**
	7	Practical/lab-III	PSY6IH02	Experimental psychology -III	4	4**
	8	Project -	PSY6IF01	Project	3	3**
	Total					25

It is advisable to submit a report during the end of V th semester on the basis of the study tour conducted to various institutions comprising psychotherapeutic centres, managerial training institutions etc so as to familiarize the students, the application of psychological principles and theories in different specializations.

**External examination/evaluation will be conducted at the end of VI th semester

DETAILS OF COURSES

CORE COURSES

1. PSY1IB01: Basic Themes in Psychology-I
2. PSY2IB01: Basic Themes in Psychology-II
3. PSY3IB01: Developmental Psychology I
4. PSY4IB01 : Developmental Psychology II
5. PSY5IB01: Abnormal Psychology I
6. PSY5IB02: Social Psychology
7. PSY51B03: Psychological Counselling I
8. PSY5IB04: Organizational Behaviour
9. PSY6IB01: Abnormal Psychology II
10. PSY6IB02: Applied Social Psychology
11. PSY6IB03: Psychological Counselling II
12. PSY6IB04: Positive Psychology

PRACTICAL/VIVA

1. PSY4IH01 Experimental Psychology Practical I
2. PSY6IH01- Experimental Psychology practical II
3. PSY6IH02 - Experimental Psychology practical III

PROJECT

- **PSY6IF01: Project**

Open Course

During the Vth Semester two Open courses are offered to the students of other departments.

Colleges can choose any one course from the two listed below

1. Choice I: Code: PSY5ID01- Psychology & Personal Growth
2. Choice II: Code: PSY5ID02- Life skill applications

Allied core Courses of MSc Psychology (Integrated) Programme

Following are the Allied core courses of BSc Psychology Programme suggested by the board and the syllabus of these complementary courses are prepared by the respective Board of studies.

- Human Physiology
- Psychological Statistics

Audit Courses

1. Environment Studies
2. Disaster Management
3. Human Rights/ Intellectual Property Rights/consumer Protection
4. Gender Studies/ Gerontology

EVALUATION SCHEME FOR CORE AND OPEN COURSES

The evaluation scheme for each course shall contain two parts

1) Internal assessment 2) External Evaluation

20% weight shall be given to the internal assessment. The remaining 80% weight shall be for the external evaluation.

Internal Assessment: 20% of the total marks in each course are for internal examinations. The internal assessment shall be based on a predetermined transparent system involving written tests, Class room participation based on attendance in respect of theory courses and lab involvement/records attendance in respect of Practical Courses.

Internal assessment of the project will be based on its content, method of presentation, final conclusion and orientation to research aptitude.

Components with percentage of marks of Internal Evaluation of Theory Courses are- Test paper 40%, Assignment 20%, Seminar 20% and Class room participation based on attendance 20%

Table I: Components for Evaluation

S I NO	Components	Marks
1	Classroom participation based on attendance	3
2	Test paper	6

3	assignment	3
4	Seminar/viva	3
	Total	15

For practical courses - Record 60% and lab involvement 40% as far as internal is concerned. (If a fraction appears in internal marks, nearest whole number is to be taken)

For the test paper marks, at least one test paper should be conducted. If more test papers are conducted, the mark of the best one should be taken.

Table 2: Split up of marks for test paper

Range of marks in test paper	Out of 6 marks (maximum internal marks is 15)
Less than 35 %	1
35%- 45%	2
45%-55%	3
55%-65%	4
65%-85%	5
85%-100%	6

Table 3: Split up of marks for classroom participation

Rate of CRP	Out of 3 marks (maximum internal marks is 15)
50% ≤CRP<75% 1	1
75% ≤CRP<85% 2	2
85% and above	3

External Evaluation

External evaluation carries 80 % of the marks.

Type 1-The Core courses, Electives and Open courses which have 3 credits will have an external examination of 2 hours duration with 60marks.Internal marks are 15b.

Type 2- The Core courses, Practicals and Other courses which have 4/5 credits will have an external examination of 2.30 hours duration with 80marks.internal marks are 20.

Scheme of Examinations

Type -1

The external Question Paper with 60 marks and Internal examination is of 15 marks. Duration of each external examination is 2 Hrs. The pattern of External Examination is as given below.

The students can answer all the questions in Sections A & B. But there shall be Ceiling in each section.

Section A

Ceiling- 20Marks

Section B

Paragraph/ Problem type carries 5 marks each -7questions Ceiling – 30Marks

Section C

Essay type carries 10 marks (1 out of 2)

1x10= 10 mark

Scheme of Examinations:

Type-II

The external Question Paper with 80 marks and Internal examination is of 20 marks. Duration of each external examination is 2.5 Hrs. The pattern of External Examination is as given below.

The students can answer all the questions in Sections A&B. But there shall be Ceiling in each section.

Section A

Short answer type carries 2 marks each - 15 questions Ceiling - 25 Section

Section B

Paragraph/ Problem type carries 5 marks each - 8 questions Ceiling - 35

Section C

Essay type carries 10 marks (2 out of 4)

2X10=20

MODEL QUESTION PAPERS OF CORE COURSES FOR ALL SEMESTERS
PSY1IB01 BASIC THEMES IN PSYCHOLOGY-I

Name:

Reg no:

Time: 2 hrs

Maximum Marks: 60

SECTION -A

Answer **ALL** Questions. Answer in Two or three sentences. Each carry 2 marks. There shall be ceiling of 20 marks in this section

1. Placebo effect
2. Structuralism
3. Circadian rhythm
4. Self-awareness
5. Selective attention
6. Perceptual Organization
7. Meditation
8. Survey method
9. Figure-ground perception
10. Perceptual set
11. Phi-Phenomenon
12. REMsleep

(Ceiling 20 marks)

SECTION -B

Answer **all** questions. Answer in a paragraph of about half a page to one page. Each question carries 5 marks. There shall be ceiling of 30 marks in this section.

13. Steps in scientific investigation

14. Types of variables.
15. Factors affecting attention.
16. Stages of sleep.
17. Discuss the different views on hypnosis
18. Explain cognitive learning
19. Theories of colour vision

(Ceiling 30 Marks)

SECTION –C

Essay Type Questions

Answer **Any one** of the following. Each Carries 10 Marks.

20. Define psychology. Explain in brief the history of psychology.
21. Explain the nature of consciousness. Give a brief description on altered states of consciousness.

(1 x 10= 10 marks)

Integrated M Sc PSYCHOLOGY

SEMESTER I-Core course -1

PSY11B01- BASIC THEMES IN PSYCHOLOGY- I

Credits: 3

Hours :3 /week Total-:48 hours

OBJECTIVES:

1. To generate interest in Psychology
2. To make familiar the basic concept of the field of Psychology with an emphasis on applications of Psychology in everyday life.
- 3.To understand the basics of various theories in Psychology
- 4.To provide basic knowledge about systems and processes like attention, learning and Consciousness.

Module 1 Introduction

Psychology: A working definition.

Origin of Psychology: Philosophical origins; Early Indian and Greek thoughts, major ideas of Descartes, Locke. Biological origins; Darwin, Genetics.

Brief history of modern scientific Psychology: Structuralism, functionalism, behavioural, psychoanalytic, humanistic, cognitive perspectives, Gestalt psychology.

Scope of different branches Psychology.

Module 2 Attention and Sensation

Attention: selective and sustained attention;

Factors affecting attention; Phenomena associated with attention-span of attention, division of attention, distraction of attention.

Sensation and perception: Difference between sensation and perception: Concept of psycho physics: Absolute threshold, Difference threshold, Weber's law; subliminal perception.

Colour Vision- Theories of Colour vision., Colour Blindness, Colour Weakness Hearing
-Theories of auditory perception.

Module 3 Perception

Perceiving forms, patterns and objects: perceptual set, feature analysis, bottom-up processing, top- down processing.

Depth Perception

Perceptual organization; Gestalt principles, figure and ground segregation, phi phenomenon.

Perceptual constancies: size, shape, brightness constancies, Visual illusions

Module 4 States of Consciousness

Nature of consciousness; Biological rhythms: circadian rhythms; Sleep and waking cycle: stages of sleep; functions of sleep; functions of REM sleep; sleep disorders, Dreams: psychodynamic, physiological and cognitive views.

Altered states of consciousness: Hypnosis;

Meditation. Altering consciousness with drugs- Brief outline on psychoactive drugs.

REFERENCES

Baron, R.A. (2004). Psychology, 5th ed. New Delhi: Pearson education.

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Commer, R. & Gould, E. (2011). Psychology around Us. New Delhi: John Wiley & Sons Inc.

Coon, D.&Mitterer, J.O. (2013) Introduction to Psychology: Gateways to Mind and Behaviour, 13th ed.Wadsworth, Cengage Learning

Feldman, R. (2011). Understanding Psychology,10th edition. New Delhi: Tata McGraw Hill.

Morgan, C.T., King, R.A., Weisz, J.R., & Schopler, J. (1993)

Introduction to Psychology, 7th ed. New Delhi: Tata McGraw Hill.

Weiten, W. (2002). Psychology: Themes and Variations, 5th ed. New York: Brooks/Cole Publishing co.

Additional References:

Gerrig, R. J (2013) Psychology and Life(20th Ed) Boston: Pearson

Kuppuswamy, B. (1990). Elements of ancient Indian Psychology, 3rd ed.

New Delhi: Konark Publishers Pvt. Ltd.

Mishra, B.K. (2008). Psychology: The study of Human Behaviour. New Delhi: Prentice Hall of Ind

Integrated M Sc PSYCHOLOGY

SEMESTER II-Core course -2

PSY2IB01- BASIC THEMES IN PSYCHOLOGY- II

Credits: 3

Hours :3 /week, Total:48 hours

Objectives:

- Understand how psychology was developed and became the field of science as we know it now
- Understand basic psychological processes like sensation & perception, states of consciousness and learning
- Students will be able to know how complex is human mind and each individual is unique
- Apply the learnt information in the practical day today life
- Able to analyse states of consciousness and can apply various techniques like meditation and mindfulness to improve their own and other's consciousness

Module 1: Learning

Concept of learning, Nature of learning, learning curve., Trial and error learning, Classical conditioning: Basic experiment and basic terms; Principles of Classical conditioning- Acquisition, Higher order conditioning, Extinction, spontaneous recovery, Generalization and Discrimination. Applications of classical conditioning.

Operant conditioning; Basic experiment of Skinner; Reinforcement, Punishment, Schedules of reinforcement. Shaping and Chaining; Applications of operant conditioning.

Cognitive learning: Cognitive map; latent learning; sign learning.

Observational learning/ Modelling

Module 2: Memory

Key processes in memory: Encoding, Storage and Retrieval.

Atkinson-Shiffrin Model; sensory memory, short term memory and long-term memory; Levels of processing.

STM; Iconic memory; Working memory, Alan Baddeley's components of working memory; Chunking; Rehearsal-maintenance rehearsal, rote rehearsal, elaborative rehearsal.

LTM; Types of LTM-procedural memory, declarative memory-semantic memory, episodic memory; Flash-bulb memory, tip of the tongue phenomenon.

Implicit and explicit memory-priming. Measuring memory; Recall, Recognition, Relearning. Retrieval cues; Encoding specificity principle; Context dependent memory, State dependent memory; Serial position effect; Reconstructive memory; Source Monitoring; Eyewitness testimony; False memory; Metamemory.

Forgetting: Curve of forgetting; Reasons of forgetting-ineffective coding, decay, interference, retrieval failure, motivated forgetting; Repression.

Strategies for remembering; Rehearsal, Elaboration, Organisation (Mnemonics).

Module 3: Motivation

Motivation; A model of Motivation; Sources of Motivation-Drives, Incentives, Instincts. Theories of motivation: Drive theory; Incentive theory; Hierarchy of needs theory; Arousal theory- Yerkes-Dodson's Law; Goal setting theory; Evolutionary theory; Cognitive Theories-Balance theory, Cognitive dissonance theory, Expectancy theory, Attribution theory.

Types of Motives; Biological motives and learned motives. The motivation of hunger and eating; Biological factors in the regulation of hunger; Environmental factors in the regulation of hunger: Sexual motivation; Hormones and human sexual behaviour; Sexual orientation.

Achievement motivation: Individual differences; situational determinants of achievement behaviour; Measuring achievement motivation.

Aggressive motive; Power motive; Affiliation motive. Intrinsic and extrinsic motivation.

Module 4: Emotion

Emotion: The elements of emotional experience; The cognitive component, The physiological component; The behavioural component; Primary emotions; Positive emotions.

Emotion and the brain; Physiology and emotion; fight or flight, sudden death, lie detectors. Expression of emotions; Facial expressions, non-verbal cues and body language; Assessment of emotions.

Theories of emotion: James-Lang theory; Cannon-Bard theory; Opponent process theory; Cognitive appraisal theories of emotion-Schachter's two-factor theory and Lazarus's theory of cognitive appraisal; Facial feedback hypothesis; Evolutionary theories of emotion.

REFERENCES

- Baron, R.A. (2004). Psychology, 5th ed. New Delhi: Pearson education.
- Bootzin, R., & Bower, G.H. (1991). Psychology today- An Introduction. 7th ed. New York: Mc Graw Hill Inc.
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- Mishra, B.K. (2008). Psychology: The study of Human Behaviour. New Delhi: Prentice Hall of India

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core course -3

PSY3IB01- DEVELOPMENTAL PSYCHOLOGY 1

Credits: 3

Hours :3 /week

OBJECTIVES

- 1) To study human development in Psychological Perspectives
- 2) To create awareness about major psychological changes along with physical and cognitive Development

Module 1: Introduction and theories to Life Span Development

Historical foundation of developmental psychology. Growth and development- Different Theories of development (Brief): Freud, Behaviourist, social, learning, Vygotsky, Periods of Development and Erikson's Theory. Developmental tasks of each stage of development.

Module 2: Prenatal Development

Fertilization- Germinal Period, Embryonic Period, Foetal Period- Effect of long term & short-term use of Teratogens- Birth Process: Types, methods- prenatal and perinatal diagnostic tests. Birth Complication and their effects. Post-partum period- physical, emotional adjustment.

Module 3: Physical and motor Development

New born reflexes, Gross and fine motor skills. Perceptual development in infancy. Physical Development from childhood to adolescence. Physical condition and health issues in early & middle adulthood.

Module 4: Cognitive Development

Piaget's theory of Cognitive Development: Process of development, 4 stages- Sensory Motor, Preoperational, Concrete operational and Formal Operational stage. Language development: Prelinguistic, Phonological, Semantic, Grammatical and Pragmatic Development. Cognitive changes in early adulthood- Post formal thought, Schaie's Model of Cognitive Development, Sternberg -Cognitive Development of middle adulthood

Internal Assessment

Assignment (3 marks)

Write down observations and evaluations on anyone of the topic related to 'applications of developmental Psychology concepts in different area of life. The Questions can be framed from critical observations and interviews. For example, why does my teenager prefer to spend time with friends than with our family? Or My child is two years old. Should I have worried that he/she isn't talking yet.

Or

Ask students to write a description about people who illustrate productivity and creativity in early and middle adulthood, including contemporary writers, artists, scientists, and musicians.

Or

Make an observation chart and analysis of a child's development in different areas by keeping any one of the developmental theories in mind.

Seminar (3 marks)

Demonstrate Piaget's concept of conservation with a problem such as asking students to estimate the group of calories in a group of large pieces of candy versus a larger number of smaller pieces of candy. Even adults will mistakenly judge the larger number of small pieces of candy to have more calories. Or you can do a classic conservation task by starting with two identical large candy bars, breaking one into smaller pieces, and asking if the total amount of the candy bar has changed. You can also ask how a young child might respond to that question.

Or

The Wason card task is another you can use to demonstrate how adolescents gradually become able to use formal operations. See this Wason example online: <http://www.philosophyexperiments.com/wason/Default.aspx>

Or

Demonstrate Piaget's Mountain Task experiment and demonstrate blanket and ball study (object permanence)

REFERENCE

Berk, L.E (2003) Child Development(3rd de). New Delhi: Pearson Education Pvt Ltd

Hurlock, E.B (1996) Developmental Psychology-A Life span Approach. New Delhi: Tata McGraw Hill Publishing Company

Papalia, D.E et.al (2004) Human Development(9th Ed). New Delhi: Tata McGraw Hill Publishing Company

Santrock, J.E (2007) Child Development (2nd Ed) New Delhi: Tata McGraw Hill Publishing Company

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core Lab -1 PSY4IH01-Experimental Psychology-1-

Hours :4 /week

Objectives

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook

PART I

Attention

1. Span of attention
2. Set in attention
3. Division of attention
4. Distraction of attention

Perception

5. Colour blindness test
6. Depth perception Illusion
7. Horizontal-Vertical illusion
8. Muller-Lyre Illusion

Motivation

9. Level of aspiration
10. Knowledge of result

Each student is required to conduct a minimum of 8 experiments from the above experiments and submit record for evaluation at the end of the fourth semester. The list includes experiments that measure attention and perception and motivation. Evaluation will be made at the end of fourth semester.

References

Anastasi, A., & Urbina, S. (1997). Psychological Testing. USA: Prentice Hall.

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Singh, A.K. (2004). Test measurements and methods in behavioural sciences. New Delhi: Bharati Bhavan Publishers and Distributors.

Woodworth, R.S., & Schlosberg, H. (1965). Experimental Psychology. New York: Methen and Co.Ltd.

Integrated M Sc PSYCHOLOGY

SEMESTER IV-Core course - 4

PSY4IB01- DEVELOPMENTAL PSYCHOLOGY –II

Credits:3

Hours :3 /week,

Objectives:

- 1) To study emotional and social development of life span periods.
- 2) To study the vocational development and adjustments in adulthood.
- 3) To understand the period of late adulthood.

Module 1: Emotional and Moral Development

Emotion- types of emotions. Emotional behaviour in infancy to middle adulthood.
Temperament: definition, different classifications. Self-development-role of family,
Parenting and peer relations in emotional development. Moral development- theories:
Piaget, Kohlberg

Module 2: Social Development

Process of socialization from infancy to middle adulthood. Vygotsky's theory of social
Development - ZPD. Development of attachment: types, Bowlby's Ethological theory of
Attachment, Factors affecting attachment. Marital Life Style & Parenthood in Young
Adulthood. Empty nest syndrome. Attraction, love and close relationships- adult marriage
life.

Module 3: Vocational Development

Vocational development and adjustment in early adulthood. Career, work and leisure in
middle Adulthood. Selecting a job, appraisal of vocational adjustment. Work life
balancing. Vocational adjustment in Middle Adulthood-Changed working conditions that

affect middle aged workers, Conditions influencing vocational adjustment and satisfaction in middle age and adjustment to retirement.

Module 4: Late adulthood

Characteristic of late adulthood. Gerontology. Physical –cognitive – and socioemotional development in late adulthood. Biological theories of ageing. Facing death and loss: Psychological issues, Pattern of grieving, special losses.

Internal Assessment

Assignment (3Marks)

Write down short assignment on ‘Applying developmental Psychology on common topics or questions. For example, “Is my grandmother right that if I don’t spank my child, they won’t learn right from wrong?” Or “Divorce and Remarriage”. Discuss pro and cones.

Or

Give students the “Heinz dilemma” in which they answer the question of whether it is right for a man to steal an expensive drug to save his dying wife. Have students rated their own responses to the question or have them rated each other’s responses.

Or

Ask students to bring in examples of people who illustrate productivity and creativity in later adulthood, including contemporary writers, artists, scientists, and musicians.

Seminar (3 Marks)

Ask students to provide examples of movies, TV shows, or magazine articles that depict the midlife crisis. The examples can also be drawn from relatives or friends. Then, ask the students to discuss the examples critically from the standpoint of alternative explanations.

Or

Ask students to reflect on cultural differences in perspectives toward death and dying; for example, how might one’s culture or religious beliefs about the afterlife affect the way a person views the death of a loved one?

REFERENCE

Berk, L.E (2003) Child Development(3rd de). New Delhi: Pearson Education Pvt Ltd

Hurlock, E.B (1996) Developmental Psychology-A Life span Approach. New Delhi: Tata McGraw Hill Publishing Company

Papalia, D.E et.al (2004) Human Development(9th Ed). New Delhi: Tata McGraw Hill Publishing Company

Santrock, J.E (2007) Child Development(2nd end) New Delhi: Tata McGraw Hill Publishing Company

Integrated M Sc PSYCHOLOGY

SEMESTER IV-Core Lab -1

PSY4IH01- EXPERIMENTAL PSYCHOLOGY-I

Credits: 4

Hours :4 /week,

Objectives:

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook

PART II

Memory

1. Immediate memory span
2. Working Memory Scale
3. Children's Memory Scale
4. PGI Memory Scale
5. Wechsler Memory Scale

Learning

6. Massed v/s spaced learning
7. Rote V/s Meaningful learning
8. Trial and error

Transfer of training

9. Bilateral transfer
10. Habit interference

Each student is required to conduct any of the above 8 experiments and submit record for evaluation at the end of the fourth semester. The list includes experiments that measure

memory, learning and transfer of training. Evaluation for Part I (III Semester) & Part II (IV Semester) will be made at the end of the fourth semester.

References

- Anastasi, A., & Urbina, S. (1997). Psychological Testing. USA: Prentice Hall.
- Postman, L.F. & Fagan, J.P. (1949). Experimental Psychology. An introduction. New York: Harper and Brother Publishers.
- Singh, A.K. (2004). Test measurements and methods in behavioural sciences. New Delhi: Bharati Bhavan Publishers and Distributers.
- Woodworth, R.S., & Schlosberg, H. (1965). Experimental Psychology. New York: Methen and Co.Lt.

Integrated M Sc Psychology

SEMESTER V- Core course- 5

PSY5IB01- ABNORMAL PSYCHOLOGY- I

Credit: 4

Hours: 4/week,

Objectives:

- To enable students to understand the concepts of abnormal behaviour
- To develop awareness about different types of anxiety and stress disorders
- To encourage the students to know different therapeutic techniques in management of anxiety and stress disorders.

Module 1: Basic concepts

Mental disorder, classification, Historical views of abnormal behaviour, causal factors- Biological, psychosocial and socio cultural.

Module2: Stress disorders and anxiety disorders

Stress and stressors- Coping strategies, stress disorders: adjustment disorder-Post traumatic stress disorder, anxiety disorder: specific phobia, social phobias, Generalized Anxiety disorders, obsessive-compulsive disorder. Causal factors

Module 3: Somatoform and dissociative disorder

Somatic Symptom Disorders, Hypochondriasis, Somatization Disorder, Pain Disorder, Conversion disorder; dissociative disorder- depersonalization/derealization disorder, dissociative amnesia and Dissociative Fugue, Dissociative Identity Disorder (DID).
causal factors

Module 4: Personality disorders

Cluster A Personality Disorders-Paranoid Personality Disorder, Schizoid Personality Disorder, Schizotypal Personality Disorder. Cluster B Personality Disorders- Histrionic Personality Disorder, Narcissistic Personality Disorder, Antisocial Personality Disorder, Borderline Personality Disorder. Cluster C Personality Disorders - Avoidant Personality Disorder, Dependent Personality Disorder, Obsessive-Compulsive Personality Disorder. Causal Factors.

Internal Assessment

Assignment (3 marks)

Conduct a qualitative work that can be a short content analysis on the topic “personality disorder”. Refer journals, articles, books and different assets to gather information in regards to the point.

Or

Write an assignment on any one type of somatoform disorder (if possible, please include any case studies)

Seminars (3 marks)

Conduct a short study on socio-cultural stigma’s related to psychological disorders. Information can be gathered through quantitative and qualitative data collection methods.

Reference

Butcher, J. N., Hooley, J. M., & Mineka, S. (2014). *Abnormal Psychology* (16th ed.). U.S. A: Pearson Education, Inc.

Carson, R. C., Butcher, J. N., & Mineka, S. (1996). *Abnormal Psychology and Modern life* (10th ed.). New York: Harper Collins College Publishers.

Seligman, M. E. P., Walker, E. P., & Rosenhan, D. L. (2001). *Abnormal Psychology* (4th ed.). New York: W. W. Norton & Company, Inc.

Sadock, B. J., Sadock, V.A., & Ruiz, P. (2015). *Kaplan & Sadock's Synopsis of Psychiatry Behavioural Sciences/ Clinical Psychiatry* (11th ed.). U.S.A: Wolters Kluwer.

Integrated M. Sc Psychology

SEMESTER V- Core Course-6

PSY5IB02- SOCIAL PSYCHOLOGY

Credit: 3

Hours: 3/week,

Objectives:

- To equip the students with basic aspects of social psychology
- To introduce the psychological aspects of various social phenomena
- To create awareness about the management of human behaviour in group settings

Module 1: Introduction to Social Psychology

Origin and Development of Social Psychology, Definition, Nature, Goal and Scope of Social Psychology, Methods of social psychology

Module 2: Social perception and Attitudes

Social Perception-Definition, Non-Verbal Communication- facial expression, gazes, stares, body language, touching, deception and micro expressions.

Attribution - Definition, Theories - Correspondence inference, Kelly's theory, Applications of attribution theory, Attribution Errors.

Attitude and behaviour - Definition, nature, components, functions and formation of attitudes.

Module 3: Group, Leadership and Social Influence

Groups: nature and functions. Types and theories of leadership. Social facilitation, social loafing.

Social influence: Conformity, Factors affecting conformity. Compliance: Underlying Principles and tactics. Obedience and destructive obedience.

Module 4: Interpersonal attraction and prosocial behaviour

Interpersonal attraction: beginning of attraction, proximity, emotions, affiliation need. Becoming acquainted- situational determinants-Love- Triangular Model of love.

Prosocial behaviour -Responding to emergency, Steps. Altruistic personality. Volunteering.

Explaining prosocial behaviour: Empathy altruism model, negative state relief model, empathic joy hypothesis, genetic determinism.

Internal Assessments

Assignments (3 marks)

Conduct a short study on social behaviour and attitude. How different attitudes impact social behaviour.

Or

Taking into account the history as well as politics narrate social influence and leadership. How political leaders in the history is portraying leadership & social influence. Take any of the political pioneers from the history & led a subjective investigation & submit it as a task.

Seminars (3 marks)

Present a seminar on the topic 'Media on social influence' based on current incidents.

Or

Factors influencing interpersonal attraction in view of observational work/ empirical work among adolescent population.

REFERENCES

Baron, R.A., Branscomb, N.R., Byrne, D., & Bhardwaj, G. (2009). *Social Psychology*, 12th ed. New Delhi: Pearson Education.

Baron, R.A., & Byrne, D. (2002). *Social Psychology*, 10th ed. New Delhi: Pearson Education.

Chaube, S.P., & Chaube, A. (2006). *Groundwork for Social Psychology (Vol.1)*. Hyderabad: Neel Kamal Publications Pvt.Ltd.

Feldman, R.S. (2001). *Social Psychology*, 3rd ed. N J. Pearson Education.

Michener, H. A., Delamater, J.D., & Myers, D.J. (2004). *Social Psychology*. Australia: Thomson

Wadsworth Publication.

Myers, D.G. (1999). Social Psychology, 7thed. New Delhi: Pearson Education.

Schneider, F.W., Gruman, J.A., & Coutts, L.M. (2005). Applied Social Psychology: Understanding and addressing social and practical problems. New Delhi: Sage Publishers

Integrated M. Sc Psychology

SEMESTER V- Core Course- 7

PSY5IB03- PSYCHOLOGICAL COUNSELLING-I

Credit: 3

Hours: 3/week,

Objectives:

- To acquire theoretical knowledge in the areas of psychological counselling
- To understand the applications of counselling in various settings
- To practice counselling techniques through roleplays

Module 1: Introduction

Concept of counselling; Defining features of counselling; Major goals of counselling; Difference between guidance and counselling; Counselling and psychotherapy; Types of counselling; Counselling psychology and other specialties and fields: Distinctiveness and overlap; Training, job setting and activities.

Module2: Strategies and Techniques

Counselling interview- Assessment and diagnosis- psychological testing

Module 3: Current trends in counselling

Diversity issues in counselling; Different formats of counselling; Counselling and Liasoning fields; Trauma Counselling, Technological advances in Counselling, Process Oriented Research in Counselling

Module 4: Counselling Relationship & Ethical and Legal Guidelines

The importance of relationship; Components of relationship; Facilitative conditions for the counselling relationship; Ethical issues, Ethical dilemmas, Legal concerns of counsellors

Internal assessment

Assignments (3 marks)

Write a short assignment informing on ethical issues and legal concerns of counsellors

Seminars (3 marks)

Present a report of the workshop conducted among classmates on“counselling skills”.

References

Neukrug, E. (2011). The world of the counselor: An introduction to the counseling profession. Nelson Education.

Bond, T. (1997). Standards and Ethics for counsellors in action. Sage

Charles, G.J., & Bruce, F.R. (1995). Counselling Psychology. Harcourt Brace Publishers

Essential Reading / Recommended Reading

Felthman, C., & Horton, I. (2000). Handbook of Counselling and Psychotherapy. Sage

Robert, G. L., & Marianne, M.H. (2003). Introduction to Counselling and Guidance. Pearson education, Inc.

Sharma, R.N., & Sharma, R. (2004). Guidance and Counselling in India.

Integrated M. Sc Psychology
SEMESTER V- Core Course-8
PSY5IB04- ORGANIZATIONAL BEHAVIOUR

Credit: 4

Hours: 4/week

Objectives:

- To familiarize the concept of human Behaviour in Organizations
- To give knowledge about work-motivation, group, leadership and organizational culture

Module 1: Introduction to Organizational Behaviour

The Concept of Organization – Need and Importance of Organizational Behaviour – Goals. Scope and Challenges of Organization - Organization Structure-Types –Organizational Behaviour Models.

Module2: Individual Behaviour

Attitude – Characteristics – Components – Formation of attitude. Perception–Importance – Factors influencing perception – Interpersonal perception- Impression Management. Motivation - Meaning and types of Motivation, content theories and process theories.

Module 3: Group behaviour and Leadership

Concept of groups - Basic groups- Theories of group formation. Communication - Processes of communication in organization-Functions of communication. Transactional analysis. Leadership- Functions of a leader- Approaches to the study of leadership phenomenon.

Module 4: Dynamics of Organizational Behaviour

Meaning of conflict - The processes of conflict, Types and sources of conflict, Resolution of

conflict. Meaning of stress- Work stressors - Consequences and management of stress. Balancing work and life. Organizational development – Characteristics –Objectives –Organizational effectiveness.

Assignments (3 marks)

Write an assignment on the appropriateness of various leadership styles and the role of leaders in a decision-making process.

Or

Write down a short assignment on the topic ‘Social diversity in the workplace and Motivation’.

Or

Discuss about various conflict management strategies used in organizations and collect recent studies on it.

Seminars (3 marks)

Conduct an industrial visit and set up a report on it including the hierarchical design, history and the board, staff selection, strategies and measures taken as reflection to organizational behaviour and its practical applications in the organizational set up.

References

Robbins, S.P. (2005) Essentials of Organizational Behaviour, 8th ed. New Delhi: Prentice Hall India Pvt. Ltd.

Sharma, R.A. (2000) Organizational Theory and Behaviour, 2nd ed. New Delhi: Tata McGraw Hill Publishing Company Limited.

Integrated M. Sc Psychology
SEMESTER V- Open Course- Choice I
PSY5ID01- PSYCHOLOGY AND PERSONAL GROWTH

Credit: 3

Hours: 3/week

Objectives:

- To understand the basic concepts in Psychology
- To acquaint with the students with the aspects of personal growth

Module 1: Introduction to Psychology

Psychology: Definition, goals of psychology, application of psychology in personal and social life: Branches of psychology

Module 2: Positive Psychology

Positive Psychology: definition, assumption, and goals. Well-being: Definition, subjective and psychological well-being, eastern and western perspectives of well-being. Hope, Optimism, Mindfulness.

Module 3: Happiness

Positive emotions and negative affectivity. Happiness: Causes and effects of happiness,

Happiness across life span, Gender, Marriage, Money and culture in happiness, Close relationship and happiness.

Module 4: Methods of personal growth

Stress: Distress and eustress, responses to stress, stress management techniques. Meditation and yoga techniques for enhancing personal effectiveness. Resilience: Definition, Risk, protective factors of resilience, Models of resilience

References

Alan Carr (2011). *Positive Psychology: The Science of Happiness & Human strengths*(II edition). Routledge, London & New York.

Baron, R.A. (2004). *Psychology*, 5th ed. New Delhi: Pearson education

Carr, Alan (2011). *Positive Psychology* (2nd Ed), New York: Routledge Taylor and Francis Group.

Mishra, B.K. (2008). *Psychology: The study of Human Behaviour*. New Delhi: Prentice Hall of India

Snyder R.C., Lopez J. S., Pedrotti T. J. (2011). *Positive psychology: the scientific and practical explorations of human strengths* (2nd edition). Sage Publications India Pvt. Ltd, New Delhi.

Additional Reference:

Fadiman, James Frager, and Robert. (2002). *Personality and Personal Growth* (5th Ed) Prentice Hall.

Integrated M. Sc Psychology
SEMESTER V- Open Course- Choice II
PSY5ID02- LIFE SKILL APPLICATIONS

Credit: 3

Hours: 3/week

Objectives:

- To promote life skill education
- To develop abilities for adaptive and positive behaviour
- To enhance self-confidence and self-esteem

Module1: Introduction

Life Skill: Concept, meaning, definition, need, Importance, Ten core life skills.

Module 2: Self-awareness, Empathy and Problem solving

Self-awareness: concept, importance of self-awareness, skills to become self-aware and benefits of self-awareness in real life.

Empathy: Need for empathy, importance of empathy in building relationships, benefits of empathy in real life. Problem solving: Steps of problem solving, using problem solving skill in solving real life problems

Module 3: Survival Skills, Effective communication and Negotiating skills

Survival Skills: Interpersonal relations-building of interpersonal relations, skill to improve interpersonal relations

Effective communication: listening skills, verbal and nonverbal communications.

Negotiating skills: decision making-importance of effective decision making in real life, career decision making

Module4: Life skill indifferent area

Life skill for preventing addiction-life skill for career planning and development-life skill for women empowerment-life skill training for various groups (Adolescents, youth).

References

Hurlock, B.E. (2007). Developmental Psychology. New Delhi: Tata MC Grew Hill Publishing Co. Ltd

Nelson – Jones, R. (2007). Life Counseling Skills. NewDelhi: Sage Publishers

Rajasenan, U. (2010). Life skills, Personality and Leadership. Chennai, RGNIYD

UNESCO and Indian National Commission for Cooperation. (2001). Life skills in Non formal Education; A Review. Paris.

UNESCO-<http://www.unesco.org>

Wadker, A. (2016). Life skills for success. Delhi: Sage Publications

WHO (1999) Partners in Life Skill Education: Conclusions from an Uninvited Nations Inter - Agency Meeting, Geneva

WHO-<http://www.who.int/en/>

Integrated M. Sc Psychology

SEMESTER V- Practical/ Lab- II

PSY6IH01- EXPERIMENTAL PSYCHOLOGY -II

Credit: *

Hours: 4/week,

Objectives:

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook.

PART I

1. Stroop effect
2. Effect of frustration on performance
3. Effect of mental fatigue on performance
4. Mental set on problem solving
5. Concept formation test
6. Cognitive flexibility test
7. Retroactive inhibition
8. Proactive inhibition
9. Method of rank order
10. Method of paired comparison

Each student is required to conduct any 6 experiments and submit record for evaluation at the end of the semester. The list includes experiments that measure learning and motivation.

*Evaluation/exam will be made at the end of sixth semester (PSY6IH01).

References

Anastasi, A., & Urbina, S. (1997). *Psychological Testing*. USA: Prentice Hall.

Postman, L.F. & Fagan, J.P. (1949). *Experimental Psychology. An Introduction*. New York: Harper and Brothers Publishers.

Singh, A.K. (2004). *Test measurements and methods in behavioural sciences*. New Delhi: Bharati Bhavan Publishers and Distributors.

Woodworth, R.S., & Schlosberg, H. (1965). *Experimental Psychology*. New York: Methen and Co.

Integrated M. Sc Psychology

SEMESTER V- Core Lab- III

PSY6IH02-EXPERIMENTAL PSYCHOLOGY -III

Hours: 4/week,

Objectives:

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook

PART I

1. Standard Progressive Matrices
2. Eysenck Personality questionnaire
3. Bhatia's Battery of Performance intelligence Tests

4. Tests of creativity
5. Bells adjustment inventory
6. Locus of control
7. Multiphasic interest inventory
8. Achievement value and anxiety inventory
9. Career decision making scale

Each student is required to conduct a minimum of 6 tests and submit record for evaluation

at the end of the semester. The list includes psychological assessments that measure intelligence and personality. Evaluation will be made at the end of sixth semester (PSY61H02).

References

Anastasi, A., & Urbina, S. (1997). *Psychological Testing*. USA: Prentice Hall.

Postman, L.F. & Fagan, J.P. (1949). *Experimental Psychology. An introduction*. New York: Harper and Brothers Publishers.

Singh, A.K. (2004). *Test measurements and methods in behavioural sciences*. New Delhi: Bharati Bhavan Publishers and Distributors.

Woodworth, R.S., & Schlosberg, H. (1965). *Experimental Psychology*. New York: Methen and Co.Ltd.

Integrated M. Sc Psychology
SEMESTER VI- Core course- 9
PSY6IB01- ABNORMAL PSYCHOLOGY-II

Credit: 4

Hours: 4/week

Objectives:

- To develop awareness about major psychological disorders
- To acquaint the students with causes of major psychological disorders

Module 1: Substance abuse disorder

Alcohol Related Disorders - Clinical Picture of Alcohol Related Disorders, Biological Causal Factors in the Abuse of and Dependence on Alcohol, Psychosocial Causal Factors in Alcohol Abuse and Dependence, Sociocultural Causal Factors. Drug Abuse and Dependence - Opium and Its Derivatives (Narcotics), Cocaine and Amphetamines (Stimulants), Methamphetamine, Barbiturates (Sedatives), Hallucinogens, Ecstasy, Marijuana, Stimulants

Module 2: Schizophrenia and otherpsychotic disorder

Schizophrenia - Origins of the Schizophrenia Construct, Epidemiology, Clinical Picture, Delusions, Hallucinations, Disorganized Speech and Behaviour, Positive and Negative Symptoms.

Subtypes of Schizophrenia, Other Psychotic Disorders -schizoaffective disorder,

Schizophreniform Disorder, Delusional Disorder, Brief Psychotic Disorder. Causal factors

Module 3: Mood Disorder

Mood Disorders: Types of Mood Disorders. Unipolar Depressive Disorders -Major Depressive Disorder, Other Forms of Depression, Premenstrual Dysphoric Disorder, Dysthymic Disorder (Persistent Depressive Disorder). Bipolar and Related Disorders-Cyclothymic Disorder, Bipolar Disorders (I and II). Causal Factors.

Module 4: Developmental disorders

Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, Autism Spectrum Disorder, Specific learning Disorders, Intellectual Disability. Causal factors

Internal Assignment

Assignments (3 marks)

Visit a mental health centre and compose a report regarding the visit including activities carried out there.

Seminar (3 marks)

Ask the students to take case study on substance use disorder or developmental disorder (child case).

References

Butcher, J. N., Hooley, J. M., & Mineka, S. (2014). *Abnormal Psychology* (16th ed.). U.S.A: Pearson Education, Inc.

Carson, R. C., Butcher, J. N., & Mineka, S. (1996). *Abnormal Psychology and Modern life* (10th ed.). New York: Harper Collins College Publishers.

Seligman, M. E. P., Walker, E. P., & Rosenhan, D. L. (2001). *Abnormal Psychology* (4th ed.). New York: W. W. Norton & Company, Inc.

Sadock, B. J., Sadock, V. A., & Ruiz, P. (2015). *Kaplan & Sadock's Synopsis of Psychiatry Behavioural Sciences/ Clinical Psychiatry* (11th ed.). U.S.A: Wolters Kluwer.

Integrated M. Sc Psychology
SEMESTER VI- Core course- 10
PSY6IB02-APPLIED SOCIAL PSYCHOLOGY

Credit: 4

Hours: 4/week,

Objectives:

- To familiarize the theoretical concept and research methods in applied Psychology.
- To give knowledge about application of Social Psychology in different areas like clinical, Educational, health and media.
- To understand the major social issues in India.

Module 1: Foundations of Applied Social psychology

Social psychology and related disciplines. Applied social psychology: historical context. Social Psychological theories- cognitive dissonance theory, group think theory.

Module 2: Applying Social psychology to Clinical and Counseling Psychology

Social psychological roots of social anxiety. Social psychological model of depression. Treatment and prevention- self presentation theory, hopelessness theory and biases in clinical Decision making.

Module 3: Applying Social psychology to the Media and Aggression

Consequence of viewing media violence- fear, aggressive thoughts. Effects of exposure to violent pornography. Reducing the harmful effects of exposure to violent sexual material. Effects of media influence on our thought. Aggression. Theoretical perspectives on aggression: role of

biological factors, drive theories, modern theories of aggression. Determinants of aggression: social, personal, situational. Prevention and control of aggression.

Module 4: Social problems in India and applying Social Psychology

The concept of social problems, characteristics, causes, types, stages in the development of social problems, and solving social problems. Brief description about the concept of poverty, unemployment, population explosion, child abuse and child labour

Assignments (3 marks)

Write a short assignment on 'Media related violence and preventive measures for aggression'.

Seminars (3 marks)

Conduct a case study in any one of the topics poverty, unemployment, population explosion, child abuse and child labour.

References

Chaube, S.P., & Chaube, A. (2006). Groundwork for Social Psychology (Vol.1). Hyderabad: Neel Kamal Publications Pvt. Ltd.

Myers, D.G. (1999). Social Psychology, 7thed. New Delhi: Pearson Education.

Ram Ahuja (1999). Social Problems in India. Jaipur and New Delhi: Rawat Publications.

Schneider, F.W., Gruman, J.A., & Coutts, L.M. (2005). Applied Social Psychology:

Understanding and addressing social and practical problems. New Delhi: Sage Publication.

Integrated M. Sc Psychology
SEMESTER VI- Core Course- 11
PSY6IB03- PSYCHOLOGICAL COUNSELLING-II

Credit: 3

Hours: 3/week

Objectives:

- To acquire theoretical knowledge in the areas of psychological counselling
- To understand the applications of counselling in various settings
- To practice counselling techniques through roleplays

Module1: Counselling and Helping

Definition and scope of Counselling. Goals of counselling. Conditions

facilitating effective counselling. Counsellor and counselee characteristics. Characteristics of an effective counsellor. An overview of Egan's Model – Problem-management and Opportunity-development approach to Helping – Outline of the three stages. Stage 1 – The Current Picture: Help clients clarify the key issues, Stage 2- The preferred picture: Help clients identify and set goals. Stage 3- The Way Forward: Help clients develop strategies and plans for goal implementation

Module2: Approaches to counselling

Person-centered counselling, Psychoanalytic counselling, Cognitive counselling, Behavioural counselling, Eclectic approach

Module3: Counselling Skills and Techniques

Opening Techniques – Greeting, topics, physical arrangements, attitudes, Non-verbal skills

(SOLER), Rapport building. Listening techniques - Active listening, forms of poor listening

Open-ended questions, Silence, Focusing, Empathic responding, Paraphrasing and reflecting,

Probing and Summarising, Structuring Acceptance techniques, structuring techniques, Leading

techniques, Reassurance and suggestion methods, Challenging, Interpretation & confrontation,

Timing & Pacing, Advanced empathy. Divergent thinking, Goal setting, Decision making,

Problem solving, Role playing, Advice and information giving strategies, Terminating skills.

Module4: Applications of Counselling in various settings (briefly):

School counselling, Career Counselling and Guidance, College counselling, Premarital

counselling, HIV/AIDS counselling, counselling for terminally ill. Group counselling

Values in counselling. Ethics in counselling. Legal aspects in counselling. Professional codes.

Note: A few major skills like active listening, paraphrasing and reflecting are to be practiced

through role plays in the class.

Assignments (3 marks)

Ask the students to coordinate a mini workshop portraying essential counselling techniques

through role plays, and so forth. Skills like active listening, paraphrasing & reflecting are to be

practiced through role plays in the class.

Seminars (3 Marks)

Visit a counselling centre, take a case and present it on class as seminar.

References

Capuzzi, D. (2007). Counselling and psychotherapy: Theories and intervention. New Delhi:

Dorling Kinsley.

Egan, G. (1990). The skilled helper: A systematic approach to effective helping. Thomson Brooks/Cole Publishing Co.

Jones, R.N. (2008). Basic Counselling Skills- A helper's manual. New Delhi: Sage Publishers.

Integrated M. Sc Psychology
SEMESTER VI- Core course-12
PSY6IB04- POSITIVE PSYCHOLOGY

Credit: 3

Hours: 3/week

Objectives:

- To familiarize the important concepts in positive psychology
- To understand the importance of wellbeing which allows people to understand what makes life worth living.
- To give knowledge about the importance of factors contributing happiness

Module 1: Introduction to Positive Psychology

What is positive psychology? Positive Psychology: assumptions, goals and definitions
Eastern and western perspectives in positive psychology.

Module 2: Well-Being

Well-Being: Definition, subjective and psychological well-being, perspectives on well-being: hedonic and eudaimonic, other theories of well-being.

Module 3: Hope, Optimism & Flow

Optimism, hope, mindfulness, expectationism, risk homeostasis theory, and time perspective, neurobiology of optimism. Flow: Self-determination theory & intrinsic motivation, meta motivational state and reversal theory. Resilience: sources of resilience, mindfulness meditation

Module 4: Happiness

Positive emotions, positive & negative affectivity. Happiness: Measuring happiness, effect of happiness, causes of happiness, circumstances & happiness, happiness enhancement. Happiness

across life span, gender & happiness, marriage & happiness, gender difference in the benefits of marriage, money, happiness and culture, close relationships and happiness

Assignments (3 marks)

Identify the importance of positive psychology through media analysis and write a report on it and submit it as assignment.

Or

Looking at the pandemic, through a positive psychology lens and write an assignment on it.

Seminars (3 marks)

Take a seminar on the topic 'impact of character strength in wellbeing'.

Or

Evaluate the validity & efficacy of different theories and approaches within positive psychology.

Or

Understand and evaluate the practical application of the theories and findings of positive psychology to human wellbeing and society.

References

Alan Carr (2011). Positive Psychology: The Science of Happiness & Human strengths (II edition). Routledge, London & New York.

Snyder R.C., Lopez J. S., Pedrotti T. J. (2011). Positive psychology: the scientific and practical explorations of human strengths (2nd edition). Sage publications India Pvt. Ltd, New Delhi.

Baumgardner S. & Crothers M. (2015). Positive Psychology. Dorling Kindersley (India) Pvt. Ltd. New Delhi

Integrated M. Sc Psychology

SEMESTER VI- Core Lab- II

PSY6IH01- EXPERIMENTAL PSYCHOLOGY -II

Credit: 4

Hours: 4/week

Objectives:

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook

PART II

- 1.Simple reaction time
- 2.Choice reaction time
- 3.Tracing test
- 4.Steadiness tests
- 5.Finger dexterity
- 6.Tweezer dexterity
7. Conformity Behaviour
8. Social Maturity Scale
9. Self-expression Inventory
10. Parental Encouragement Scale

Each student is required to conduct any 6 experiments from the above experiments and submit record for evaluation at the end of the semester. Evaluation for Part I (V Sem) & Part II (VI Sem) will be made at the end of the sixth semester (PSY6IH01).

References

Anastasi, A., & Urbina, S. (1997). Psychological Testing. USA: Prentice Hall.

Postman, L.F. & Fagan, J.P. (1949). Experimental Psychology. An introduction. New York: Harper and Brother Publishers.

Singh, A.K. (2004). Test measurements and methods in behavioural sciences. New Delhi: Bharati Bhavan Publishers and Distributers.

Woodworth, R.S., & Schlosberg, H. (1965). Experimental Psychology. New York: Methen and Co.Ltd.

Integrated M. Sc Psychology

SEMESTER VI- Core Lab- III

PSY6IH02- EXPERIMENTAL PSYCHOLOGY -III

Credit: 4

Hours: 4/week

Objectives:

- To nurture the ability in students to understand himself/herself and other persons.
- To develop the skills of testing and scientific reporting in psychology.
- To familiarize the students to various psychological tests and assessment tools.
- To generate an interest in working of the community with a psychological outlook.

PART II

1. 16 PF
2. Weschler adult performance intelligence scale
3. Emotional Intelligence inventory
4. Aptitude Tests
5. IAS rating scale
6. Occupational stress inventory
7. Materialism spiritualism scale
8. Family relationship inventory
9. Risk taking scale

10. Study habit scale

Each student is required to conduct a minimum of 6 tests from the above tests and submit record for evaluation at the end of the semester. Evaluation for Part I (V Sem) & Part II (VI Sem) will be made at the end of the sixth semester (PSY6IH02).

References

Anastasi, A., & Urbina, S. (1997). *Psychological Testing*. USA: Prentice Hall.

Postman, L.F. & Fagan, J.P. (1949). *Experimental Psychology. An Introduction*. New York: Harper and Brothers Publishers.

Singh, A.K. (2004). *Test measurements and methods in behavioural sciences*. New Delhi: Bharati Bhavan Publishers and Distributors.

Woodworth, R.S., & Schlosberg, H. (1965). *Experimental Psychology*. New York: Methen and Co.Ltd.

Integrated M Sc Psychology

SEMESTER VI

PSY6IF01-PROJECT

Credit: 3

Hours: 3 hours

Pursuing a research project enables students to pursue an original study about a topic of interest. Students are expected to conduct a small project on socially relevant topics. Project work should be carried out with the supervision of faculty members in the department. The project work must be started from the fifth semester onwards and students should submit their report at the end of sixth semester.

Objectives

To study basic skills to conduct research□

To learn basic way of data collection and processing□

Course Outcomes

Understand the basic requirements of a research□

Applying statistical methods to conduct analysis of data and□ interpret results

Guide lines for the Project work

The project work shall be a quantitative, qualitative or□ exploratory study and the use of simple statistical techniques may be encouraged.

Students must do the project work individually and submit the□ report in manuscript format (handwritten form).

Preferably tool can be prepared by the students themselves such as interview schedule, observation schedule, questionnaires, categories of content analysis etc.

Authenticity of the project work should be verified.[]

The report should not exceed 30pages[]

The report must have five chapters such as Introduction, review,[] method, result and discussion, summary and conclusion and reference (APAformat).

An abstract of the study should be submitted along with the research[] report.

The project will be valued both internally and externally.[]

Pattern of Evaluation

External evaluation (60 marks)		Internal evaluation (15 marks)	
Relevance of the topic, Statement of the Objectives	15marks	originality	4 marks
Reference, Bibliography, Presentation, quality of Analysis, Use of Statistical Tools	15 marks	Methodology	4 marks
Findings and Recommendations	15marks	Scheme/organisation of report	3 marks
Viva voce	15 marks	Viva voce	4marks



UNIVERSITY OF CALICUT

Abstract

Complimentary Course for B Sc. Psychology - Human Physiology- CBCSS UG 2014- -Scheme and Syllabus- Approved-Implemented-w.e.f 2014 Admissions-Orders issued.

G & A - IV - J

U.O.No. 8270/2014/Admn

Dated, Calicut University.P.O, 22.08.2014

*Read:-*1. U.O. No. 3797/2013/CU, dated 07.09.2013 (CBCSS UG Modified Regulations)
(File.ref.no. 13752/GA IV J SO/2013/CU).

2. U.O. No. 5180/2014/Admn, dated 29.05.2014 (CBCSS UG Revised Regulations)
(File.ref.no. 13752/GA IV J SO/2013/CU).

3. Item No: 1 of the minutes of BOS in Physiology held on 30.1.14

4. Item No:66 of the Minutes of the meeting of Faculty of Science held on 3.2.14

5. Item II (i). of the minutes of Academic Council held on 20.3.14

ORDER

The Modified Regulations of Choice Based Credit Semester System for UG Curriculum w.e.f 2014 was implemented under the University of Calicut vide paper read as (1). The Revised CUCBCSS UG Regulations has been implemented w.e.f 2014 admission, for all UG programme under CBCSS in the University, vide paper read as (2).

As per the paper read as (3) the Scheme and Syllabus of Complementary Course Human Physiology for BSc Psychology Programme under CBCSS (UG) was approved by the Board of Studies in Physiology. As per paper read as(4) above, the Faculty of Science has approved this minutes and as per paper read as 5 above, the AC has approved it.

Sanction has therefore been accorded for implementing the Scheme and Syllabus of the Complementary Course Human Physiology for CBCSS UG Programmes in Psychology with effect from 2014 admission onwards.

Orders are issued accordingly.

Revised Syllabus appended.

Deputy Registrar

To

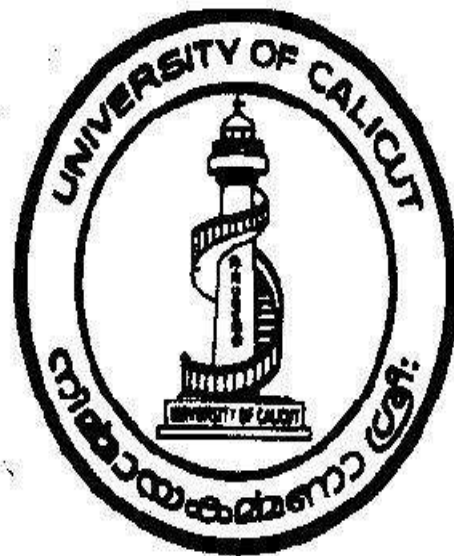
1. All Affiliated Colleges/SDE/Dept.s/Institutions under University of Calicut.
2. The Controller of Examinations, University of Calicut.
3. The Director SDE, University of Calicut.

Forwarded / By Order

Section Officer

Scheme and syllabus
of the Complementary
Course

Human Physiology
Of
B.Sc. Psychology (CCSS UG)



UNIVERSITY OF CALICUT
2014

Details of the members of the Board of Studies in Human Physiology.

Sl. No.	Name	Designation	College	e mail id	Mobile phone
1.	Dr.K.V.Pauly (Chairman)	Associate Professor	Prajyoti Niketan College, Pudukad	pauylveeren@gmail.com	9847448160
2.	Dr.Balu T. Kuzhivelil	„	Christ College, Irinjalakuda	balu99@rediffmail.com	9447528917
3.	Dr.Britto K. Joseph	„	St.Thomas College, Thrissur	drbrittojoseph@gmail.com	9496734855
4.	Dr.T.U.Abdul Jabbar	„	Sir Syed College, Thalipparamba	unnimollaabdujabbar@yahoo.in	9446348620
5.	Dr.Ranjini K.R	„	Malabar Christian College, Kozhikode	ranjini.k.r45@gmail.com	9447077381
6.	Dr.C.V.David	„	St.Thomas College, Thrissur	cvdavid1965@yahoo.com	9446417055
7.	Dr.Sudhikumar A.V	„	Christ College, Irinjalakuda	avsudhi@rediffmail.com	8547553174
8.	Dr.Bindu Mary Mathew	Assistant Professor	Vaidyaratnam Ayurveda College, Ollur	bindumarymathew2013@gmail.com	9447137467
9.	Dr.Soumya Starlet C.T	„	Prajyoti Niketan College, Pudukad	soumya.starlet@gmail.com	7293748473

Regulations, Scheme and Syllabus for B.Sc. Human Physiology (Complementary)

A candidate seeking admission to B. Sc Psychology must pursue Human Physiology as one of the compulsory complementary courses.

Curriculum: Study of complementary course consists of two academic years with four semesters.

Course structure and distribution of marks

Part	No. of courses	External	Internal	Max. marks	Total marks
Theory	4	80	20	100	400

Internal assessment: Assessment includes seminar, assignment, written test and marks for attendance with the following split up of marks: Seminar – 4 marks; Assignment - 4 marks; written test - 8 marks; Attendance – 4 marks; Total 20 marks.

Credit and Mark distribution for the complimentary course in Human Physiology

Semester	Course title	Course code	Contact hours/Week	Marks			Credits
				Internal	External	Total	
I	Human Physiology I	PS1CO1	4	20	80	100	3
II	Human Physiology II	PS2CO1	4	20	80	100	3
III	Human Physiology III	PS3CO1	5	20	80	100	3
IV	Human Physiology IV	PS4CO1	5	20	80	100	3
Total						400	12

Pattern of Question paper (Similar for all four semesters)

Questions shall be asked from the whole syllabi pertaining to the respective semester. Weightage for each module while setting the question papers, should be in proportion to the instructional hours allotted to the respective topic in the syllabus

Duration	Pattern	Total No. of Questions	Questions to be answered	Marks for each question	Total marks for each section
3 hours	One word	10	10	1	10
	Short answer	10	10	2	20
	Paragraph type	8	6	5	30
	Essay	4	2	10	20
Grand Total					80

B.Sc. PSYCHOLOGY
PS1C01: Human Physiology

OBJECTIVES

This course familiarizes the student of Psychology with the most essential and fundamental aspects of cell biology and basics of genetics that are essential for understanding the anatomy and physiology of the nervous system in general and of the CNS that they are to master in the following semesters.

Module 1 Cellular organization

- 1.1 Cell structure, plasma membrane (fluid mosaic model), and cell organelles.
- 1.2 Cell inclusions-brief description on the structure of carbohydrates, lipids and proteins.
- 1.3 Cell theory, cell principle.
- 1.4 Unicellularity to multicellularity, differentiation. Brief mention of spatial and temporal control of gene activity.
- 1.5 Tissues- brief description of major types.

(Hours – 20)

Module 2 Genes and chromosomes

- 2.1 Structure of D.N.A, D.N.A replication.
- 2.2 Concept of a gene - genetic code, introns, exons.
- 2.3 Morphology of chromosomes-size, shape, karyotype, idiogram, kinds of chromosomes.
- 2.4 Linkage and crossing over, sex linked chromosomes.

(Hours – 14)

Module 3 Cell division

- 3.1 Cell cycle.
- 3.2 Mitosis.
- 3.3 Meiosis.

(Hours – 12)

Module 4 Elements of heredity and variation

- 4.1 Mendel's work and laws of inheritance (monohybrid cross, dihybrid cross, test cross).
- 4.2 Brief explanation of terms-alleles, homozygosity, heterozygosity, genotype, phenotype.
- 4.3 Brief description of other patterns of inheritance and genotype expression-incomplete dominance, co-dominance, multiple alleles, epistasis, pleiotropy.

(Hours – 12)

Module 5 Mutations and Genetic disorders

- 5.1 Gene mutation-Kinds of mutation, classification (Somatic, gametic, point, spontaneous, induced, dominant , recessive and silent mutations).
- 5.2 Gene mutation disorders - albinism, phenylketonuria, alkaptonuria, galactosemia, brachydactyli.
- 5.3 Autosomal anomalies - Down's syndrome, Edward's syndrome, Cri du chat syndrome.
- 5.4 Sex chromosomal anomalies - Klinefelter's syndrome and Turner's syndrome.

(Hours – 14)

REFERENCE

1. Vijayakumaran Nair & Jayaprakash, Cell Biology, Genetics, Molecular Biology, Academia, Thiruvananthapuram.
2. Gupta, P.K., Cell and Molecular Biology, Rastogi Publications, Meerat.
3. Dewitt-Saunders, Biology of the cell.

4. Strickberger W.M-Mac Millon, Genetics.
5. Gerald Karp, Cell and Molecular Biology: Concept and Experiments.
6. Roothwell, Human Genetics, Prentice Hall.
7. Lodish;Verk; et.al; Molecular Cell Biology, W.H. Freeman publishers.
8. Verma, P. S. and Agarwal, V. K., Cell Biology, Genetics, Molecular Biology, Evolution and Ecology, S. Chand and Co. New Delhi.
9. De Robertis, E. D. P. and De Robertis, E. M. F., Cell and molecular Biology, 7th Edn, Hol-Saunders International Editions.

B.Sc. PSYCHOLOGY
PS2C01: Human Physiology

OBJECTIVES

This course imparts extensive information to the Psychology student on the nervous system with special emphasis on the CNS. It also introduces the student to states of brain activities and techniques in neurophysiology.

Module 1 The Nervous System

- 1.1 Divisions (CNS,PNS – somatic and autonomic)
- 1.2 Nervous tissue (neurons, nerve fibres, nerves, synapse).
- 1.3 Non nervous tissue and other materials (neuroglia, meninges, cerebro-spinal fluid, Blood - CSF and blood - brain barriers).
- 1.4 Nerve impulse - generation, conduction, synaptic transmission, role of calcium ions, action of transmitter substances on postsynaptic neuron, types of transmitter substances.

(Hours – 20)

Module 2 The Central Nervous System

- 2.1 Brain – an overview (Forebrain, midbrain, hindbrain).
- 2.2 Spinal cord – an overview of its structure and organization.
- 2.3 Reflex Action – monosynaptic reflex, multisynaptic reflex, crossed extension reflex, mass reflex.

(Hours – 14)

Module 3 The Cerebellum and the Basal Ganglia

- 3.1 The Cerebellum and its motor functions.
- 3.2 Anatomical functions, areas of the cerebellum.
- 3.3 Function of the cerebellum in overall motor control.
- 3.4 The basal ganglia-their motor functions, role of the basal ganglia for cognitive control, functions of neurotransmitters with basal ganglia.

(Hours – 14)

Module 4 The Cerebral Cortex

- 4.1 Functions of the specific cortical areas –association areas (parieto occipito temporal, prefrontal and limbic association areas with special emphasis on Wernike’s area and Broca’s area), area for recognition of faces, concept of the dominant hemisphere.
- 4.2 Function of the brain in communication - Sensory and Motor aspects of communication.

(Hours – 12)

Module 5 States of brain activity and Techniques in neurophysiology

- 5.1 Sleep –Basic theories of sleep, Brain waves, Slow wave sleep and REM sleep.
- 5.2 Brain imaging – CT, MRI, PET, CBF, EEG, Lesioning and Electrical Stimulation of Brain (ESB).

(Hours – 12)

REFERENCE

1. Schneider A.M & Tarshis B., An introduction to Physiological Psychology, Random House, New York.
2. Guyton & Hall – Textbook of Medical Physiology, 12th Edn., Saunders.
3. Sherwood L, Thomson, Human Physiology.
4. Kalat J.W, Wadsworth C.A, Biological Psychology.
5. Levinthal C.F, Introduction to Physiological Psychology, Prentice Hall, New Delhi.
6. K.Sembulingam and Prema Sembulingam, Essentials of Medical Physiology, Jaypee brothers Medical Publishers Pvt. Ltd.
7. Chatterjee, C.C, Human Physiology, Medical Allied Agency.

B.Sc. PSYCHOLOGY
PS3C01: Human Physiology

OBJECTIVES

This course familiarizes the student of Psychology with the sensory systems, pathways and perception of various senses. It also introduces the student to the endocrine system.

Module 1 The Visual System

- 1.1 Structure of the human eye, Organization of retina and visual pathways.
- 1.2 Functioning of the eye, visual coding, chemistry of vision, transduction in the retina, theories of color vision, visual perception.
- 1.3 Visual defects (myopia, hypermetropia, presbyopia, astigmatism, cataract, color blindness, nyktelopia).

(Hours – 18)

Module 2 Auditory System

- 2.1 Anatomy of the auditory system.
- 2.2 Auditory pathways, auditory perception and hearing abnormalities.
- 2.3 Statoreceptors.

(Hours – 16)

Module 3 Gustatory and Olfactory system

- 3.1 Anatomy of taste buds and its function, primary sensations of taste, taste thresholds and intensity discrimination, taste preferences and control of the diet.
- 3.2 Taste pathways and transmission of signals into the central nervous system.
- 3.3 Organization of the olfactory membrane, sense of smell and stimulation of the olfactory cells.
- 3.4 Categorizing smell, transmission of smell signals into the central nervous system.

(Hours – 16)

Module 4 Cutaneous senses (Somatic sensations)

- 4.1 Classification – the mechanoreceptive somatic senses (tactile and position), the thermoreceptive senses (heat and cold), the pain sense.
- 4.2 Detection and transmission of tactile sensations – tactile receptors, detection of vibration, tickling and itch.
- 4.3 Sensory pathways for transmitting somatic signals into the central nervous system, somatosensory cortex, position senses, position sensory receptors.
- 4.4 Thermal sensations - thermal receptors, their excitation and transmission of thermal signals.
- 4.5 Pain – purpose, types, pain receptors, pain suppressive system, pain sensation.

(Hours – 20)

Module 5 Endocrine system

- 5.1 Introduction to endocrinology, an overview of the importance of endocrine glands.
- 5.2 Mode of action of hormones and influence on growth and behavior.
- 5.3 Major endocrine glands – their location, structure, hormones produced and its role (Hypothalamus, pituitary, thyroid, adrenal, gonads, thymus, pineal body, placenta).

(Hours – 20)

REFERENCE

1. K. Sembulingam and Prema Sembulingam, Essentials of Medical Physiology, Jaypee brothers Medical Publishers Pvt. Ltd.
2. Guyton & Hall, Textbook of Medical Physiology 12th Edn., Saunders.
3. Sebastian M.M, Animal Physiology, Madonna.
4. Kalat J.W, &Wadsworth C.A, Biological Psychology.
5. Barrett E. Kim, Barman M. Susan et.al; Ganong's review of Medical Physiology, Tata McGraw Hill Education Pvt. Ltd.
6. Sarada Subrhmmanian and K. MadhavanKutty, A Text Book of Physiology. Oriented Longman Publication.
7. Sujith K. Chaudhari, Concise Medical Physiology, New Central Book Agency, Delhi.
8. A. K. Jain, Text Book of Physiology Vol.1 & 2, Avichal Publications.

B.Sc. PSYCHOLOGY**PS4C01: Human Physiology****OBJECTIVES**

This course familiarizes the student of Psychology with the most essential and fundamental aspects of physiological processes underlying psychological events like hunger, thirst, sexual behavior and emotion. It also dwells on brain damage and Neuroplasticity.

Module 1 Physiological basis of hunger

- 1.1 Neural control of food intake - Role of hypothalamus, Neural centers that influence mechanical process of feeding.
- 1.2 Factors that regulate quantity of food intake, role of hormones (effect of Cholecystokinin, Peptide YY, GLP, Ghrelin).
- 1.3 Short-term regulation of food intake, intermediate and long-term effect of food intake. (Effect of blood concentrations of glucose, aminoacids, lipids on hunger and feeding), temperature regulation of food intake.
- 1.4 Obesity - causes and treatment, Eating disorders (Bulimia, Anorexia, Inanition, Cachexia, Picca).

(Hours – 20)

Module 2 Physiological basis of thirst

- 2.1 Peripheral factors in water regulation.
- 2.2 Central factors in water regulation (cellular dehydration thirst and hypovolemic thirst).

(Hours – 14)

Module 3 Physiological basis of sexual behavior

- 3.1 Hormones and sexual development – Fetal hormones and the development of reproductive organs, Sex differences in the brain, Perinatal hormones and behavioral development, Puberty: hormones and development of secondary sexual characteristics.
- 3.2 Effects of gonadal hormones on adults – Male reproduction related behavior and testosterone, Female reproduction related behavior and gonadal hormones.

- 3.3 Neural mechanisms of sexual behavior – Structural differences between the male hypothalamus and female hypothalamus, the hypothalamus and male sexual behavior, the hypothalamus and female sexual behavior.

(Hours – 20)

Module 4 Neural basis of emotion

- 4.1 Role of frontal lobes.
 4.2 Behavioural functions of the hypothalamus and associated limbic structures, Reward centers, Rage – its association with punishment centers, placidity and tameness.
 4.3 Functions of Amygdala.

(Hours – 18)

Module 5 Brain Damage and Neuroplasticity

- 5.1 Causes of brain damage – Brain tumors, Cerebrovascular disorders (Cerebral hemorrhage, Cerebral ischemia), Infections of the brain (Bacterial infections, Viral infections), Neurotoxins, Genetic factors, Apoptosis.
 5.2 Neuropsychological disorders – Epilepsy (Grand Mal Epilepsy, Petit Mal Epilepsy and Focal Epilepsy), Parkinson's disease, Huntington's disease, Multiple sclerosis, Alzheimer's disease.

(Hours – 18)

REFERENCE

1. Schneider A.M & Tarshis B, An introduction to Physiological Psychology, Random House, New York.
2. Guyton & Hall, Saunders, Textbook of Medical Physiology.
3. Sherwood L, Thomson, Human Physiology.
4. Kalat J.W, Wadsworth C.A, Biological Psychology.
5. Levinthal C.F, Introduction to Physiological Psychology, Prentice Hall, New Delhi.
6. Pinel P.J John, Biopsychology, Pearson.
7. Neil.R.Carlson, Physiology of behavior, Pearson publishers.
8. Barrett E. Kim; Barman M. Susan et al., Ganong's Review of Medical Physiology; Tata McGraw Hill Education Pvt. Ltd.
9. Alcock John, Animal Behavior, 6th edition, Sinauer Associates, Inc. Sunderland, Massachusetts.
10. Carlson, Neil, R., Physiology of Behavior, 8th edition, Pearson.



UNIVERSITY OF CALICUT

Abstract

General and Academic - CBCSS Integrated Regulations 2020 - Faculty of Science - Syllabus of Allied Core Course : Statistics for Integrated MSc Psychology Programme - With effect from 2020 Admission - Approved by the Vice Chancellor subject to ratification by the Academic Council - Implemented - Orders issued.

G & A - IV - J

U.O.No. 10284/2022/Admn

Dated, Calicut University.P.O, 21.05.2022

- Read:-*1. U.O. No. 4852/2021/Admn dated 26.04.2021
2. Syllabus of Allied Core Course : Statistics received from the Chairman, Board of Studies in Statistics (UG) dated 18.05.2022
3. Remarks of Dean, Faculty of Science dated 19.05.2022
4. Orders of Vice-Chancellor in the file of even no. dated 20.05.2022

ORDER

1. The Regulations for the Integrated Programmes under Choice Based Credit Semester System (CBCSS) in affiliated colleges w.e.f. 2020 admission was implemented, vide paper read (1) above.
2. Vide paper read (2) above, the Chairman, Board of Studies in Statistics (UG), forwarded the syllabus of Allied Core Course : Statistics, for Integrated MSc Psychology Programme, in accordance with CBCSS Integrated Regulations 2020, with effect from 2020 Admission, after circulating among the members of the Board, as per Clause (34) of Chapter 3 of Calicut University First Statutes (CUFS) 1976.
3. The syllabus forwarded by the Chairman, has been approved by Dean, Faculty of Science and by the Vice Chancellor, subject to ratification by Academic Council, vide paper read (3) & (4) above, respectively.
4. Sanction has, therefore, been accorded to implement the syllabus of Allied Core Course : Statistics, for Integrated M.Sc Psychology Programme, in accordance with CBCSS Integrated Regulations 2020, with effect from 2020 Admission, subject to ratification by the Academic Council.
5. Orders are issued accordingly. (Syllabus and Model Question Papers appended)

Abdussamad M

Assistant Registrar

To

All Affiliated Colleges offering the Integrated MSc Psychology Programme
Copy to : PS to VC/Pa to R/PA to CE/JCE I/JCE VII/EG I/University Librarian/GA I F/SF/DF/FC

Forwarded / By Order

Section Officer

**STATISTICS: Syllabus of Allied Core Course for
Integrated MSc Psychology Programme**

(2020 admission onwards)

Se m No	Course Code	Course Title	Instr uctio nal Hour s/we ek	Credi t	Exa m Hour s	Ratio Ext: Int
1	STA1IC 02	DESCRIPTIVE STATISTICS	4	3	2	4:1
2	STA2IC 02	REGRESSION ANALYSIS AND PROBABILITY THEORY	4	3	2	4:1
3	STA3IC 02	PROBABILITY DISTRIBUTIONS AND PARAMETRIC TESTS	5	3	2	4:1
4	STA4IC 02	STATISTICAL TECHNIQUES FOR PSYCHOLOGY	5	3	2	4:1

SEMESTER I

STA1IC02- DESCRIPTIVE STATISTICS

Contract Hours per week: 4

Number of credits: 3

Number of Contact Hours: 72

Course Evaluation: External 60 Marks+ Internal 15

Marks Duration of Exam: 2 Hours

Question Paper Pattern

Type of Questions	Question number (From..... To)	Mark s
Short Answer	01 to 12	Short answer type carries 2 marks each - 12 questions (Maximum Marks 20)
Paragraph/ Problems	13 to 19	Paragraph/ Problem type carries 5 marks each – 7 questions (Maximum Marks 30)
Essay	20 to 21	Essay type carries 10 marks (1 out of 2) (Maximum Marks 10)
Total	01 to 21	60

Question Paper setter has to give equal importance to both theory and problems in sections B and C.

Objectives

1. To generate interest in Statistics
2. To equip the students with the concepts of basic Statistics
3. To provide basic knowledge about Statistical methods

Module 1: *A basic idea about data-* collection of data, primary and secondary data, organization, planning of survey and diagrammatic representation of data

10 Hours

Module 2: *Classification and tabulation-* Classification of data, frequency distribution, formation of a frequency distribution, Graphic representation *viz.* Histogram, Frequency Curve, Polygon, Ogives, Bar diagram and Pie diagram

10 Hours

Module 3: *Measure of central tendency-* Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean, Combined Mean, Advantages and disadvantages of each average

20 Hours

Module 4: *Measures of dispersion*- Range, Quartile Deviation, Mean Deviation, Standard Deviation, Combined Standard Deviation, Percentiles, Deciles, Relative Measures of Dispersion, Coefficient of variation

16 Hours

Module 5: *Skewness and Kurtosis*- Pearson's and Bowley's coefficient of skewness, Percentile Measure of Kurtosis

16 Hours

References

1. Gupta, S.P. *Statistical Methods*. Sultan Chand and Sons: New Delhi.
2. Gupta, S.C., & Kapoor, V.K. *Fundamentals of Applied Statistics*. New Delhi: Sultan Chand and Sons.
3. Garret, H.E., & Woodworth, R.S. *Statistics in Psychology and Education*. Bombay: Vakila, Feffex and Simens Ltd.
4. Mood, A.M., Graybill, F.A and Boes, D.C. *Introduction to Theory of Statistics*. 3rd Edition Paperback – International Edition.
5. Mukhopadhyay, P. *Mathematical Statistics*. New central Book Agency (P) Ltd: Calcutta.

Assignments/ Seminar

Assignments/Seminar are to be given to students. The purpose of the assignments/seminar is to provide practical exposure to the students.

SEMESTER II

STA2IC02- REGRESSION ANALYSIS AND PROBABILITY THEORY

Contract Hours per week: 4

Number of credits: 3

Number of Contact Hours: 72

Course Evaluation: External 60 Marks+ Internal 15

Marks Duration of Exam: 2 Hours

Question Paper Pattern

Type of Questions	Question number (From..... To)	Marks
Short Answer	01 to 12	Short answer type carries 2 marks each - 12 questions (Maximum Marks 20)
Paragraph/ Problems	13 to 19	Paragraph/ Problem type carries 5 marks each – 7 questions (Maximum Marks 30)
Essay	20 to 21	Essay type carries 10 marks (1 out of 2) (Maximum Marks 10)
Total	01 to 21	60

Question Paper setter has to give equal importance to both theory and problems in sections B and C.

Objectives

1. To make the students aware of various Statistical tools
2. To create awareness about probability

Module 1: *Bivariate data*- relationship of variables, correlation analysis, methods of studying correlation, Scatter Diagram, Karl Pearson's Coefficient of Correlation, Calculation of Correlation from a 2-way table, Interpretation of Correlation Coefficient, Rank Correlation

11 Hours

Module 2: *Regression analysis*- linear regression, Regression Equation, Identifying the Regression Lines properties of regression coefficients, numerical problems

9 Hours

Module 3: *Partial and Multiple Correlation Coefficients*- Multiple Regression Equation, Interpretation of Multiple Regression Coefficients (three variable cases only)

16 Hours

Module 4: *Basic probability*- Sets, Union, Intersection, Complement of Sets, Sample Space, Events, Classical, Frequency and Axiomatic Approaches to Probability, Addition and Multiplication Theorems, Independence of Events (Up-to three events)

20 Hours

Module 5: *Random Variables and their probability distributions*- Discrete and Continuous Random Variables, Probability Mass Function, Distribution Function of a Discrete Random Variable

16 Hours

References

1. Gupta, S.P. *Statistical Methods*. Sultan Chand and Sons: New Delhi.
2. Gupta, S.C., & Kapoor, V.K. *Fundamentals of Applied Statistics*. New Delhi: Sultan Chand and Sons.
3. Garret, H.E., & Woodworth, R.S. *Statistics in Psychology and Education*. Bombay: Vakila, Feffex and Simens Ltd.
4. Mood, A.M., Graybill, F.A and Boes, D.C. *Introduction to Theory of Statistics*. 3rd Edition Paperback – International Edition.
5. Mukhopadhyay, P. *Mathematical Statistics*. New central Book Agency (P) Ltd: Calcutta.

Assignments/ Seminar

Assignments/Seminar are to be given to students. The purpose of the assignments/seminar is to provide practical exposure to the students.

SEMESTER III

STA3IC02- PROBABILITY DISTRIBUTIONS AND PARAMETRIC TESTS

Contract Hours per week: 5

Number of credits: 3

Number of Contact Hours: 90

Course Evaluation: External 60 Marks+ Internal 15

Marks Duration of Exam: 2 Hours

Question Paper Pattern

Type of Questions	Question number (From..... To)	Marks
Short Answer	01 to 12	Short answer type carries 2 marks each - 12 questions (Maximum Marks 20)
Paragraph/ Problems	13 to 19	Paragraph/ Problem type carries 5 marks each – 7 questions (Maximum Marks 30)
Essay	20 to 21	Essay type carries 10 marks (1 out of 2) (Maximum Marks 10)
Total	01 to 21	60

Question Paper setter has to give equal importance to both theory and problems in sections B and C.

Objectives

1. To get a general understanding on various probability distributions
2. To familiarize the uses of Statistical test.

Module 1: *Distribution Theory*- Binomial, Poisson and Normal Distributions, Mean and Variance (without derivations), Numerical Problems, Fitting, Importance of Normal Distribution, standard normal distribution, simple problems using standard normal tables, Central Limit Theorem (Concepts only)

25 Hours

Module2: *Methods of Sampling*- Random Sampling, Simple Random Sampling, Stratified, Systematic and Cluster Sampling, Non Random

sampling, Subjective sampling, Judgment sampling and convenience sampling

20 Hours

Module 3: Fundamentals of Testing- Type-I & Type-II Errors, Critical Region, Level of Significance, Power, p value, Tests of Significance

15 Hours

Module 4: Large Sample Tests – Test of a Single, Mean Equality of Two Means, Test of a Single Proportion, and Equality of Two Proportions

10 Hours

Module 5: Small Sample tests-Test of a Single Mean, Paired and Unpaired t-Test, Chi-Square Test of Variance, F-Test for the Equality of Variance, Tests of Correlation

20 Hours

References

1. Gupta, S.P. *Statistical Methods*. Sultan Chand and Sons: New Delhi.
2. Gupta, S.C., & Kapoor, V.K. *Fundamentals of Applied Statistics*. New Delhi: Sultan Chand and Sons.
3. Garret, H.E., & Woodworth, R.S. *Statistics in Psychology and Education*. Bombay: Vakila, Feffex and Simens Ltd.
4. Mood, A.M., Graybill, F.A and Boes, D.C. *Introduction to Theory of Statistics*. 3rd Edition Paperback – International Edition.
5. Mukhopadhyay, P. *Mathematical Statistics*. New central Book Agency (P) Ltd: Calcutta.

Assignments/ Seminar

Assignments/Seminar are to be given to students. The purpose of the assignments/seminar is to provide practical exposure to the students.

SEMESTER IV

STA4IC02 - STATISTICAL TECHNIQUES FOR PSYCHOLOGY

Contract Hours per week: 5

Number of credits: 3

Number of Contact Hours: 90

Course Evaluation: External 60 Marks+ Internal 15

Marks Duration of Exam: 2 Hours

Question Paper Pattern

Type of Questions	Question number (From..... To	Marks
Short Answer	01 to 12	Short answer type carries 2 marks each - 12 questions (Maximum Marks 20)
Paragraph/ Problems	13 to 19	Paragraph/ Problem type carries 5 marks each – 7 questions (Maximum Marks 30)
Essay	20 to 21	Essay type carries 10 marks (1 out of 2) (Maximum Marks 10)
Total	01 to 21	60

Question Paper setter has to give equal importance to both theory and problems in sections B and C.

Objectives

1. To make the students aware of various Statistical test in different areas of Psychology
2. To give knowledge about applications of Statistics in different areas of Psychological studies.

Module 1: Analysis of Variance- assumptions, One-way and Two-way Classification with Single Observation per Cell, Critical Difference
20 Hours

Module 2: Non Parametric tests- Chi-square Test of Goodness of Fit, Test of Independence of Attributes, Test of Homogeneity of Proportions
20 Hours

Module 3: Sign Test- Wilcoxon's Signed Rank Test, Wilcoxon's Rank Sum Test, Run Test and Krushkal-Wallis Test
20 Hours

Module 4: Factorial Design- Basics of factorial Design, Factorial experiments and their uses in Psychological studies, Concepts of 2^2 , 2^3 factorial experiments (without derivation), simple problems
15 Hours

Module 5: Preparation of Questionnaire- Scores and Scales of Measurement, Reliability and Validity of Test Scores
15 Hours

References

1. Gupta, S.P. *Statistical Methods*. Sultan Chand and Sons: New Delhi.
2. Gupta, S.C., & Kapoor, V.K. *Fundamentals of Applied Statistics*. New Delhi: Sultan Chand and Sons.
3. Garret, H.E., & Woodworth, R.S. *Statistics in Psychology and Education*. Bombay: Vakila, Feffex and Simens Ltd.
4. Mood, A.M., Graybill, F.A and Boes, D.C. *Introduction to Theory of Statistics*. 3rd Edition Paperback – International Edition.
[Douglas C. Montgomery](#). *Design and Analysis of Experiments*. 9th Edition.

Assignments/ Seminar

Assignments/Seminar are to be given to students. The purpose of the assignments/seminar is to provide practical exposure to the students.

FIRST SEMESTER EXAMINATION
Statistics- Allied Core
STA1IC02 -DESCRIPTIVE STATISTICS

Time: 2 Hours

Max Marks: 60

SECTION-A

Each question carries 2 Marks.
Maximum Marks that can be scored in this section is 20.

1. Compare less than and greater than Ogives.
2. What do you mean by percentiles?
3. Define geometric mean
4. What is the variance of the observations 8, 10, 12?
5. How will you find range of a grouped frequency distribution?
6. What is meant by relative measure of dispersion?
7. Define quartile deviation
8. Distinguish between discrete and continuous data. Give examples
9. The average pulse rate of 40 males was found to be 78 and that of a group of 60 females was 69. Find the combined mean pulse rate of the 100 patients.
10. What is combined standard deviation?
11. What are the advantages of median?
12. Draw a bar diagram depicting the following data

Year	199	199	199	199
	2	3	4	5
Export (in crore)	55	63	60	70

SECTION-B

Each question carries 5 Marks.
Maximum Marks that can be scored in this section is 30.

13. Explain Kurtosis. What are the different types of Kurtosis?
14. Discuss the graphical methods used for representing a frequency distribution
15. The blood serum cholesterol levels of 10 patients are given below. Calculate the S.D. and C.V.
220, 230, 240, 250, 260, 270, 280, 255, 265, 290
16. Write the importance of diagrams and graphs for data analysis
17. Define classification. What are the different types of classification?
18. Explain Quartile deviation. What are the advantages and disadvantages of quartile deviation?
19. Calculate AM and SD for the following data

Class	10-14	14-18	18-22	22-26	26-30
frequency	20	30	11	3	5

SECTION-C

(Answer any one Question and carries 10 marks)

20. Calculate the mean deviation about the mean for the given data.

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	4	8	12	15	12	6	3

21.

(a) Define Skewness. What are the different types of Skewness?

(b) Calculate Karl Pearson's Coefficient of skewness for the following frequency distribution

Class	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104
frequency	8	15	18	25	14	9	6	5

[END]

SECOND SEMESTER EXAMINATION
Statistics- Allied Core
STA2IC02-REGRESSION ANALYSIS AND
PROBABILITY THEORY

Time: 2 Hours

Max Marks: 60

SECTION-A

Each question carries 2 Marks.

Maximum Marks that can be scored in this section is 20.

1. Define Spearman's rank correlation coefficient
2. Distinguish between discrete and continuous variables
3. What is meant by a scatter diagram?
4. State the Multiplication theorem of probability for two events
5. Define probability mass function
6. Define sample space. Give one example
7. Define the following
 - (a) Disjoint set
 - (b) Universal set
 - (c) Null set
8. If $P(A)=0.2, P(B)=0.6, P(A \cap B)=0.3$, then $P(A \cup B)=$
9. If $f(x)=kx, x=1,2,3$ and zero elsewhere is a p.m.f. Find $P(X \geq 2.5)$.
10. If $r_{12}=0.93, r_{13}=0.99$ and $r_{23}=0.92$. Calculate $r_{12,3}$
11. Consider the following p.m.f

x	1	0	2
$f(x)$	k	$2k$	$3k$

Find the value of k .

12. Distinguish between mutually exclusive events and mutually exhaustive events

SECTION-B

Each question carries 5 Marks.

Maximum Marks that can be scored in this section is 30.

13. Distinguish between partial correlation and multiple correlations
14. What is meant by linear regression? What are two regression lines? Give their equations
15. Explain the different approaches to the theory of probability.
16. State addition theorem in probability. A problem in mathematics is given two students A and B. Whose chances of solving it are $1/3$ and $2/3$ respectively. What is the probability that the problem will be solved?
17. If $\sigma_x=6, \sigma_y=10$ and $\text{cov}(x,y) = -30$, find the correlation between X and Y . Comment on the same. Also find the regression coefficients.
18. In a box there are 8 white, six blue and 10 pink balls. If 3 balls are drawn at random from the box, what is the probability that

- (a) Two balls are white
- (b) None of 3 is pink
- (c) 3 balls are blue

19. Define the distribution function of a discrete random variable. Also write its properties

SECTION-C

(Answer any one Question and carries 10 marks)

20. A random variable X has the following probability function

x	-1	0	2
$f(x)$	k	$2k$	$3k$

- (a) Determine the value of k
- (b) Find $P(X \in 2)$ and $P(X \leq 2)$
- (c) Write down the distribution function of X

21. (i) State the important properties of Karl Pearson's coefficient of correlation.
(ii) Calculate the correlation coefficient for the following data

X	7	15	13	3	10	12
Y	27	45	51	9	33	51

[END]

THIRD SEMESTER EXAMINATION
Statistics- Allied Core
STA3IC02- PROBABILITY DISTRIBUTIONS AND
PARAMETRIC TESTS

Time: 2 Hours

Max Marks: 60

SECTION-A

Each question carries 2 Marks.

Maximum Marks that can be scored in this section is 20.

1. What is meant by a Statistical test? Give an example
2. Write down the test Statistic for testing the equality of means of two normal population whose variance are equal and when the sample sizes are small
3. Distinguish between Null and Alternative hypothesis
4. Give two instances where binomial distribution can be applied
5. What is sampling frame?
6. What is convenience sampling?
7. Define sampling distribution
8. A binomial distribution has $n = 500$ and $p = 0.1$. Find the mean and variance of this distribution
9. State central limit theorem

10. Define power of a test
11. What is standard error
12. Write down the p.d.f of standard normal distribution

SECTION-B

Each question carries 5 Marks.

Maximum Marks that can be scored in this section is 30.

13. What are the main features of Normal distribution
14. If 3% electric bulbs manufactured by a company are defective. Find the probability that in a sample of 100 bulbs, exactly five bulbs are defective (Given $e^{-3} = 0.0492$)

15. Describe Paired sample t test

16. Distinguish between systematic sampling and stratified sampling
17. A sample of 25 items were taken from a population with SD 10 and the sample mean is found to be 65. Can it be regarded as a sample from a normal population with mean $\mu = 60$. (use $\alpha = 5$)
18. The customer accounts at a certain departmental store have an average balance of Rs. 120 and SD of Rs. 40. Assume that the account balance are normally distributed
 - (a) What proportion of the accounts as over Rs. 150
 - (b) What proportion of accounts in between Rs. 100 and Rs. 150
19. Sample sizes 10 and 18 taken from two normal population gave standard deviation

14 and 20 respectively. Test the hypothesis that the samples have come from population with the same standard deviation at 5% level of significance

SECTION-C
(Answer *any one* Question and carries 10 marks)

20. Explain the test procedure for test the equality of variance of two normal populations with known mean

21. The screws produced by certain machine were checked by examining samples. The following table shows the distribution of 128 sample according to the number of defective items they contained

No. of defective	0	1	2	3	4	5	6	7	Total
No of samples	7	6	19	35	30	23	7	1	128

Fit a binomial distribution to the data

[END]

FOURTH SEMESTER EXAMINATION
Statistics- Allied Core
STA4IC02- STATISTICAL TECHNIQUES FOR PSYCHOLOGY

Time: 2 Hours

Max Marks: 60

SECTION-A

Each question carries 2 Marks.

Maximum Marks that can be scored in this section is 20.

1. What is meant by validity
2. What are contingency tables
3. Write down the test statistic of chi- square test for testing homogeneity
4. What are the advantages of non- parametric test
5. What is meant by Ratio scale
6. State three assumptions of ANOVA technique
7. State the null hypothesis of one way ANOVA
8. Define the term reliability
9. Write down the test statistic of chi- square test for testing goodness of fit
10. What is meant by interval scale
11. Write any three assumptions associated with non parametric test
12. What do you mean by pilot survey

SECTION-B

Each question carries 5 Marks.

Maximum Marks that can be scored in this section is 30.

13. What are the steps in preparing a questionnaire?
14. Write a short note on Krushkal- Wallis test
15. Describe the importance of factorial experiments in psychological studies
16. Briefly explain Wilcoxon's Rank sum test
17. The following are the marks obtained by 10 students in a certain examination

Marks: 43 48 65 57 31 60 37 48 78 59

Test the hypothesis that population variance is 100 (Test at 5% level of significance)

18. The following data give the number of lesions on halves of eight tobacco leaves

Pair number	1	2	3	4	5	6	7	8
Proportion 1, X_1	31	20	18	17	9	8	10	7
Proportion 2, X_2	18	17	14	11	10	7	5	6

Use Wilcoxon's signed rank test to test whether the two samples are significantly different

19. Explain the chi- square test for independence of attribute

SECTION-C
(Answer any one question and carries 10 marks)

20. A trucking company wishes to test the average life of each of the three brands of tyres. The company uses all branches on randomly selected trucks. The records showing the lives (thousands of miles) of tyres are as given. Using ANOVA, test the hypothesis that the average life for each brand is the same

<u>Brand I</u>	<u>Brand II</u>	<u>Brand III</u>
6	6	2
1	3	5
5	4	6
2	3	7

21. (i) Define the term validity
(ii) Explain various types of validity

[END]



UNIVERSITY OF CALICUT

Abstract

General & Academic - CBCSS UG Regulations 2019 - Scheme and Syllabus of B.Sc Biotechnology programme w.e.f 2020 Admission onwards -Incorporating Outcome Based Education - Implemented - Subject to ratification of Academic Council - Orders Issued.

G & A - IV - J

U.O.No. 5760/2021/Admn

Dated, Calicut University.P.O, 30.05.2021

- Read:-*1) U.O.No. 9181/2019/Admn, Dated 11.07.2019.
2) U.O.No. 15610/2019/Admn, Dated 05.11.2019.
3) The email Dated 25.05.2021, from the Chairperson, Board of Studies in Biotechnology.
4) Remarks of the Dean, Faculty of Science, Dated 29.05.2021.
5) Orders of the Vice Chancellor in the file of even no, Dated 29.05.2021.

ORDER

1. The scheme and syllabus of B.Sc Biotechnology Programme under CBCSS UG Regulations 2019 in the affiliated Colleges of the University, w.e.f 2019 admission onwards has been implemented, vide paper read (1) above and same has been modified , vide paper read (2) above.
2. The Chairman, Board of Studies in Biotechnology, vide paper read (3) above, has forwarded the Scheme and Syllabus of B.Sc Biotechnology Programme , incorporating Outcome Based Education(OBE) in the existing syllabus in accordance with CBCSS UG Regulations 2019, w.e.f 2020 admission, after circulating among the members of the Board of Studies, as per Chapter 3(34) of Calicut University First Statute, 1976.
3. The Scheme and Syllabus of B.Sc Biotechnology Programme, incorporating Outcome Based Education(OBE), has been approved by the Dean, Faculty of Science, vide paper read (4) above and by the Vice Chancellor, subject to ratification by the Academic Council, vide paper read (5) above.
4. The Scheme and Syllabus of B.Sc Biotechnology programme (CBCSS) incorporating Outcome Based Education (OBE) in the existing syllabus, in tune with CBCSS UG Regulations 2019, is therefore implemented with effect from 2020 Admission onwards under affiliated colleges of the University, subject to ratification by the Academic Council.
5. Orders are issued accordingly.
6. U.O.No. 15610/2019/Admn Dated, 05.11.2019 is stands modified to this extend. (Modified syllabus appended)

Ajitha P.P

Joint Registrar

To

The Principals of all Affiliated Colleges
Copy to: PS to VC/PA to PVC/ PA to Registrar/PA to CE/JCE I/JCE IV/DoA/EX and EG
Sections/GA I F/CHMK Library/Information Centres/SF/DF/FC

Forwarded / By Order

Section Officer

Acute diarrhoeal diseases

Antimicrobial therapy

Immunoprophylaxis & Immunotherapy

Nasocomial infections

(10 hrs)

References

1. Ananthanarayanan : Textbook of Microbiology, 1994, Oriental Publishers.
2. Peleczar : Microbiology.
3. Prescott : Microbiology.

A11. GENERAL COURSE I BIODIVERSITY – SCOPE AND RELEVANCE (THEORY)

(CREDITS: 4)

SEMESTER – III

TOTAL HOURS: 72

Unit 1 Defining Biodiversity (Hours: 12)

The concept of biodiversity. Biodiversity crisis. Importance of biodiversity in daily life. Biodiversity and climate change. India as mega biodiversity nation. Hot spots of biodiversity in India.

Unit 2 Components of Biodiversity. (Hours: 12)

Genetic diversity, species diversity and ecosystem diversity. Brief outlines of the magnitude of bacterial, fungal, protist, animal and plant diversity.

Unit 3 Loss of Biodiversity (Hours: 12)

Factors causing loss of genetic-, species- and ecosystem diversity. Processes responsible for species extinction. Threatened species and IUCN Red List categories. Loss of agrobiodiversity. Significance of wild relatives of cultivated plants and domesticated animals.

Unit 4 Values and uses of biodiversity (Hours: 12)

Ethical and aesthetic values of biodiversity. Direct and indirect economic benefits of biodiversity. Bio-prospecting – micro-organisms and plants as a source of novel enzymes, antibiotics, antiviral agents, Immunosuppressive agents and other therapeutic agents.

Unit 5 Inventorying and Monitoring of Biodiversity (Hours: 12)

The need for inventorying and monitoring of biodiversity. Methods of inventorying and monitoring of biodiversity and their limitations.

Unit 6 Conservation of biodiversity (Hours: 12)

Conservation of genetic-, species- and ecosystem diversity. In situ and ex situ conservations: biosphere reserves, national parks, wild-life sanctuaries, gene banks, seed banks, botanical gardens, microbial culture collections.

SUGGESTED READING

1. Patent, D. H., Munnoz W. 1996. Biodiversity. Clarion Books.
2. Maiti, P. K., Maiti, P. 2011. Biodiversity: Perception, Peril and Preservation. Prentice Hall India.
3. Maclaurin, J. 2008. What is biodiversity? University of Chicago Press.
4. Krishnamurthy, K. V. 2003. Textbook of Biodiversity. SciencePublishers Inc.
5. Wilson E. O. 2010. The Diversity of Life. Harvard University Press.

6. Hosetti B.B., Ramkrishna, S. 2016. Biodiversity: Concepts and Conservation. Aavishkar Publishers.
7. Kumar A. 2011. Understanding Biodiversity. Discovery Publishing House.
8. Hendon, J. 2017. Textbook of Biodiversity. Syrawood Publishing House.
9. Adom, D. Umachandran, K., Ziarati, P., Sawicka, B., Sekyere, P. 2019. The Concept of Biodiversity and its Relevance to Mankind: A Short Review. Journal of Agriculture and Sustainability 12(2): 219-231.
10. Ehrlich, P.R., Ehrlich, A.H. 1992. The Value of Biodiversity. Stanford University Press.

A12. GENERAL COURSE II RESEARCH METHODOLOGY

(THEORY)

(CREDITS: 4)

SEMESTER – III

TOTAL HOURS: 72

Unit I (Hours: 13)

Topic selection - Planning research – defining objectives - Preparation of work plans.

Identification of suitable methodology - Preparation of project proposal –Summer Schools – Training in research institutes

Unit II (Hours: 14)

Collection of literature- News articles – Newsletters – Magazines – Books - Journals. Digital library and search of articles - Keywords and search - Internet – Google Scholar – PubMed – Infilbnet – Medline – Agricola – Science direct -Open access Journals - virtual sources – other sources. Short communications –review articles

Unit III (Hours: 15)

Collection of protocols and selection of suitable methods according to work plan.

Observational and experimental research. Data analysis – Construction of tables – headings - footer - Tabulation – Presentation of results - Use of statistical software to analyze the results- SPSS.

Unit IV (Hours: 15)

Thesis structure –Components - Writing Introduction – review of literature – Materials & Methods – Presentation of results – Discussion of Results based on literature – Arriving at conclusions – Preparation of Summary/abstract – Arrangement of Bibliography and how to quote reference in thesis - Appendix.

Unit V (Hours: 15)

Publishing of Articles in newspapers /newsletters - Selection of journals – ISSN Number – Peer-reviewed Journals – Science citation index – impact factor and importance. Manuscripts preparation for Journals – components – Plagiarism - Submission and Publication – reprints and pdf formats. Paper presentation in Conferences.

SUGGESTED READING

1. Anderson, Durston & Polle 1970: Thesis and assignment, writing. Wiley Eastern Limited.
2. Booth W. C. et al. 2016. The Craft of Research. University of Chicago Press.
3. Rajendrakumar C. 2008. Research Methodology. APH publishing Corporation.
4. Kothari C. R. 2004. Research Methodology. New Age International Publishers.
5. Gurumani, N. 2006. Research Methodology for Biological Sciences. MJP. Publishers.
6. Marczyk, G., DeMatteo, D., Festinger, D. 2005. Essentials of research design and methodology. John Wiley.

7. Katz, M. J. 2009. From Research to Manuscript: A Guide to Scientific Writing. Springer.
8. Michael Alley. The Craft of Scientific Writing (3rd Edition) Publisher: Springer.
9. Cargill, M., O'Connor, P. 2013. Writing Scientific Research Articles: Strategy and Steps. Wiley-Blackwell.
10. Blake, G. and Bly, R. W. 2000. The Elements of Technical Writing. Pearson.
11. Reep, D. C. 2014. Technical Writing: Principles, Strategies, and Readings. Longman.

A13. NATURAL RESOURCE MANAGEMENT

(THEORY)

(CREDITS: 4)

SEMESTER – IV

TOTAL HOURS: 72

Unit 1: Introduction to natural resources (Hours: 8)

Definition of natural resources. Types of natural resources. Need for protecting natural resources

Unit 2: Sustainable utilization (Hours: 8)

Concept of sustainable utilization. Economic, ecological and socio-cultural approaches.

Unit 3: Land (Hours: 8)

Agricultural, pastoral, horticultural and silvicultural land utilization. Soil degradation and soil management.

Unit 4: Water (Hours: 8)

Fresh water (rivers, lakes, groundwater); Marine; Estuarine; Wetlands; Threats and management strategies.

Unit 5: Biological Resources (Hours: 8)

Biodiversity-definition and types; Significance; Threats; Management strategies.

Bioprospecting. National Biodiversity Action Plan.

Unit 6: Forests (Hours: 8)

Definition. Types of forests. Forest cover and its significance (with special reference to India); Major and minor forest products; Forest depletion. Forest Management.

Unit 7: Energy (Hours: 8)

Renewable and non-renewable sources of energy.

Unit 8: Contemporary practices in natural resource management (Hours: 8)

Environmental Impact Assessment, Remote Sensing, Geographic Information System, Participatory Resource Appraisal. Ecological footprint with emphasis on carbon footprint. Resource Accounting. Waste management.

Unit 9: National and international efforts in natural resource management and conservation (Hours: 8)

SUGGESTED READING

1. Singh K. K. 2008. Natural Resources Conservation & Management. M D Publications Pvt. Ltd.
2. Singh, J. S., Singh, S.P. and Gupta, S. 2006. Ecology, Environment and Resource Conservation. Anamaya Publications.
3. Rogers, P.P., Jalal, K.F. and Boyd, J.A. 2008. An Introduction to Sustainable Development. Prentice Hall of India.
4. Pandey, B. W. 2005. Natural Resource Management. Mittal Publications.

Press.

6. Nuberg, I., George, B., Reid, R. 2009. Agroforestry For Natural Resource Management. CSIRO Publishing.

7. Camp, W. G., Heath-Camp, B. 2016. Managing Our Natural Resources. Cengage Learning Pte. Ltd

8. Chiras, D. D., Reganold, J. P. 2009. Natural Resource Conservation: Management for a Sustainable Future. Pearson.

9. Campbell, B. M., Sayer, J. A. 2003. Integrated Natural Resource Management: Linking Productivity, the Environment and Development. CABI Publishing.

10. Deal, K. H. 2011. Wildlife and Natural Resource Management. Delmar Cengage Learning.

A14. INTELLECTUAL PROPERTY RIGHTS

(THEORY)

(CREDITS: 4)

SEMESTER – IV

TOTAL HOURS: 72

Module 1: Overview of intellectual property (Hours: 4)

Introduction and the need for intellectual property right (IPR). IPR in India – Genesis and Development. Some important examples of IPR.

Module 2: Patents (Hours: 10)

Macro-economic impact of the patent system. Patent and kind of inventions protected by a patent. Patent document. How to protect your inventions? Granting of patent. Rights of a patent. How extensive is patent protection? Why protect inventions by patents? Searching a patent. Drafting of a patent. Filing of a patent

Module 3: Copyright (Hours: 10)

What is copyright? What is covered by copyright? How long does copyright last? Why protect copyright?

Related rights: What are related rights? Distinction between related rights and copyright. Rights covered by copyright.

Module 4: Trademarks (Hours: 14)

Definition of trademark. Rights of trademark. Kinds of signs that can be used as trademarks. Types of trademark. Function that a trademark performs. How is a trademark protected? How is a trademark registered? How long is a registered trademark protected for? How extensive is trademark protection? What are well-known marks and how are they protected? Domain name and how does it relate to trademarks?

Module 5: Geographical Indications (Hours: 4)

What is a geographical indication? How is a geographical indication protected? Why protect geographical indications?

Module 6: Industrial Designs (Hours: 10)

What is an industrial design? How can industrial designs be protected? What kind of protection is provided by industrial designs? How long does the protection last? Why protect industrial designs?

Module 7: Biotechnology and IPR (Hours: 20)

Rationale for Intellectual Property Protection in biotechnology. Concept of Novelty in Biotechnological Inventions. Concept of Inventive Step in Biotechnological Inventions. Microorganisms as Biotechnological Inventions. Patenting biological inventions. Patenting microorganisms. Patenting other biological processes and products. Protection of new varieties of plants. Justification for Protection. Biotechnology and International Treaties such as Convention on Biological Diversity and TRIPs.

SUGGESTED READING

1. T. M Murray, M.J. Mehlman. 2000. Encyclopaedia of Ethical, Legal and Policy issues in Biotechnology, John Wiley & Sons.

- Applications and Research, Technomic Publishing Co., Inc.
3. D. Balasubramaniam, C.F.A. Bryce, K. Dharmalingam, J. Green and K. Jayaraman, 2002. Concepts in Biotechnology, University Press (Orient Longman Ltd.).
 4. Bourgagaize, Jewell and Buiser. 2000. Biotechnology: Demystifying the Concepts, Wesley Longman.
 5. Ajit Parulekar, Sarita D' Souza. 2006. Indian Patents Law – Legal & Business Implications; Macmillan India,
 6. B.L. Wadehra. 2000. Law Relating to Patents, Trade Marks, Copyright, Designs & Geographical Indications; Universal law Publishing Pvt. Ltd.
 7. P. Narayanan. 2010. Law of Copyright and Industrial Designs; Eastern law House.
 8. N.S. Gopalakrishnan, T.G. Agitha. 2009. Principles of Intellectual Property. Eastern Book Company.
 9. T. Ramakrishan (Ed.). 2003. Biotechnology and Intellectual Property Rights. CIPRA, NLSIU, Bangalore.
 - 10 N.K. Acharya. 2012. Text Book on Intellectual Property Rights, 6th ed. Asia Law House.
 - 11 M. M. S. Karki. 2009. Intellectual Property Rights: Basic Concepts. Atlantic Publishers.
 - 12 N. S. Sreenivasalu. 2007. Intellectual Property Rights. Neha Publishers & Distributors.
 - 13 Pal P. 2008. Intellectual Property Rights in India: General Issues and Implications. Regal Publications

MODEL QUESTION PAPERS FOR GENERAL PAPERS

Research methodology

Time: 2 hrs and 30 min.

Marks 80

Section A

Answer any 12 questions. Each question carries 2 marks (Ceiling 25 marks)

1. What is the role of keywords in a research paper?
2. What is meant by a protocol?
3. What is meant by trial and error method?
4. What is Google Scholar?
5. Define plagiarism
6. What is meant by impact factor of journals?
7. What is meant by Science Citation Index
8. What are the basics of data collection?
9. What is SPSS? Explain its uses in research.
10. What is ISSN Number?
11. Define the term thesis?
12. What are open-access journals?
13. Explain the role of bibliography in a thesis
14. What is meant by data analysis?
15. What is meant by peer-reviewed journals?

Section B

Answer any 7 questions. Each question carries 5 marks (Ceiling 35marks)

16. Which are the different components of a thesis?
17. Differentiate between a research article and a monograph.
18. What is the significance of review of literature in research?
19. Briefly explain the significance of INFLIBNET.
20. Discuss summer school and training research institutes in India
21. Explain the basics of manuscript writing for a journal.
22. Differentiate between observational and experimental research.
23. What is a predatory journal?