



UNIVERSITY OF CALICUT

Abstract

General and Academic - Faculty of Science - Integrated M.Sc Psychology - Syllabus for first to fourth semesters, with effect from 2020 admissions - Approved by the Academic Council - Implemented - Orders issued.

U.O.No. 17788/2021/Admn

G & A - IV - J

Dated, Calicut University.P.O, 18.11.2021

- Read:-*1. U.O. No. 4852/2021/Admn dated 26.04.2021
2. Item No. 1(B) in the minutes of the Combined Online meeting of the Board of Studies in Psychology (UG) and (PG) held on 29.06.2021
3. Remarks of Dean, Faculty of Science dated 02.09.2021
4. Item No. 1.16 in the minutes of the LXXXII meeting of Academic Council held on 24.09.2021
5. Orders of Vice Chancellor in the File No. File No: 107152/GA - IV - J2/2015/Admn dated 30.09.2021

ORDER

1. The Regulations for the Integrated Programmes under Choice Based Credit Semester System (CBCSS) in affiliated colleges with effect from 2020 admissions was implemented, vide paper read (1) above.
2. Vide paper read (2) above, the Combined Board of Studies in Psychology (UG) and Psychology (PG) approved the Syllabus for M.Sc Integrated Psychology from 1st semester to 4th semester.
3. The decision of Board of Studies is approved by the Dean, Faculty of Science, vide paper read (3) above, and subsequently by the Academic Council, vide paper read (4) above.
4. The Vice Chancellor has ordered to implement the resolution of the Council, vide paper read (5) above.
5. Sanction has therefore, been accorded to implement the Syllabus for M.Sc Integrated Psychology from 1st semester to 4th semester, with effect from 2020 admissions.
6. Orders are issued accordingly. (Syllabus appended)

Arsad M

Assistant Registrar

To

Principals of Affiliated Colleges

Copy to : PS to VC/PA to R/Pa to CE/JCE I/JCE IV/JCE V/SF/DF/FC

Forwarded / By Order

Section Officer

M Sc Psychology (Integrated course)

2020 Admission onwards

SEMESTER I

SEMESTER I	Course No	Courses	Course code	Course title	Hours/week	Credits
	1	Common course -1	ENG11AO1	English-I	5	4
	2	Common course -2	ENG11AO2	English-II	4	3
	3	Common Course 3		Language other than English/Additional Language -I	5	4
	4	Core Course -1	PSY1IB01	Basic themes in Psychology-I	3	3
	5	Ist Allied Core -1	PSY1IC01	Human Physiology	4	3
	6	2 nd Allied Core -1	PSY1IC02	Psychological Statistics	4	3
	7	Audit Course		Environment Studies	-	
Total					25	20

SEMESTER II

SEMESTER-II	Course No	Courses	Course code	Course title	Hours /Week	Credits
	1	Common course -4	ENG2IA01	English-III	5	4
	2	Common course -5	ENG2IA02	English-IV	4	3
	3	Common Course -6		Language other than English/Additional Language -II	5	4
	4	Core Course -2	PSY2IB01	Basic themes in Psychology-II	3	3
	5	Ist Allied Core -2	PSY2IC01	Human Physiology	4	3
	6	2 nd Allied Core -2	PSY2IC02	Psychological Statistics	4	3
	7	Audit Course		Disaster Management	-	
Total					25	20

SEMESTER III

SEMESTER -III	Course No	Courses	Course code	Course title	Hours/week	Credits
	1	Core -3	PSY3IB01	Psychological measurement and Testing	4	4
	2	Core -4	PSY3IB02	Individual Differences	4	4
	3	Core-5	PSY3IB03	Developmental Psychology-1	3	3
	4	Core lab -1	PSY4IH01	Experimental Psychology -I	4	Exam will be in 4 th sem .
	5	Ist Allied Core -3	PSY3IC01	Human Physiology	5	3
	6	2 nd Allied Core -3	PSY3IC02	Psychological Statistics	5	3
	7.	Audit Course		Human Rights/Intellectual Property Rights/Consumer Protection		
	Total					25

SEMESTER IV

SEMESTER-IV	Course no	Courses	Course code	Course title	Hours/week	Credits
	1	Core -6	PSY4IB01	Health Psychology	4	4
	2	Core -7	PSY4IB02	Cognitive Psychology	3	3
	3	Core-8	PSY4IB03	Developmental Psychology-II	4	4
	4	Core lab -1	PSY4IH01	Experimental Psychology –I	4	4
	5	Ist Allied Core -4	PSY4IC01	Human Physiology	5	3
	6	2 nd Allied Core -4	PSY4IC02	Psychological Statistics	5	3
	7	Audit Course		Gender Studies/Gerontology	-	
Total					25	21

Integrated M Sc PSYCHOLOGY

SEMESTER I-Core course -1

PSY1IB01- 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, behavioral, 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 psychophysics: 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.

Bootzin, R., & Bower, G.H. (1991). *Psychology today- An Introduction*. 7th ed. New York: Mc Graw Hill Inc.

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 Behavior*, 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 Edn) 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 Behavior*. 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 analyze 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/ Modeling

Module2 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).

Module3Motivation

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.

Module4 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.
- 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 Behavior*, 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.

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- Gerrig, R. J (2013) *Psychology and Life* (20th Edn) 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 Behavior*. New Delhi: Prentice Hall of India

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core course -3

PSY3IB01- PSYCHOLOGICAL MEASUREMENT AND TESTING

Credits : 4

Hours :4 /week ,Total:64 hours

Objectives:

- To offer foundation on psychological measurement and testing
- To provide the basis of test construction and to build up skills on developing psychometric test
- To familiarize the uses of psychological tests
- To make aware of ethical principals in testing

Module 1: Introduction to Measurement and Scaling Techniques

Definition of measurement, Levels of measurement: Nominal, Ordinal, Interval and Ratio scales, Properties of scales of measurement: Magnitude, equal interval and absolute zero, Distinction between psychological measurement and physical measurement, Problems in psychological measurements.

Module 2: Nature and Use of Psychological Tests

Definition of psychological test, Historical perspective of psychological testing

Uses of psychological test, Characteristics of a good test: Objectivity, Reliability, Validity, Norms, and Practicability, ethical issues in psychological testing, Factors influencing Test Administration- Examiner, Testing Conditions, Test Taker.

Classification of psychological tests: Speed test and power test, Individual and group tests, Verbal, Non-verbal and performance tests, culture specific and culture free tests, Objective and subjective tests.

Module 3: Test Construction and Administration

Introduction to steps of test construction- Planning, Writing, meaning and purpose of item analysis, Administration, Standardisation ,Meaning of Reliability, Types of reliability, Meaning of Validity, aspects of validity – face validity, content validity;

construct validity, criterion-related validity

Concept of Norms –norm referenced and criterion- referenced norms, types of norms- percentile, standard score, age equivalent, grade equivalent and T-score.

Module 4: Basics of Psychological research

Research Process- identifying the problem-types of problems, hypothesis- types of hypothesis, variables- dependent, independent, extraneous variables, formulating research design, reviewing the literature-sources of review, Sampling- fundamentals of sampling,

Data collection techniques-questionnaire and schedule, interview, content analysis, observation, rating scale, carrying out statistical analysis-difference between descriptive and inferential statistics, drawing conclusions.

Structure of a research report, APA style of writing research report

Internal Assessment

Assignment (3 Marks)

Select any Psychological Test and write about the psychometric properties(Reliability , Validity ,steps in test construction and norms) of the concerned psychological test

Or

Submit the report of Preparation of Items for psychological test construction

Or

Prepare Structured Interview schedule on a particular topic.

Seminar (3 Marks)

Group (3-4 students) Seminar-- Present a Psychological Journal Article and point out APA style of report writing. (Individual Marks can be given on the basis of each students participation and performance in the seminar)

Or

Group Seminar (3 to 4 students) Report of Content Analysis work.(Analysis can be done on Movies, Books, Journals, Print magazines, Social media etc)

References

Singh, A.K.(2008). Tests, Measurements and research Methods in Behavioural Sciences(3rd ed.). Patna: Bharati Bhawan Publishers

Chadha.N.K.,(2009).Applied Psychometry. New Delhi: Sage Publications India Pvt Ltd.

Anastasi, A., & Urbina, S. (2005). Psychological Testing (7th ed.).New Delhi: Prentice –Hall Of India.

Kaplan R. M. & Saccuzzo D. P. (2007), Psychological Testing –Principles, Applications And Issues. (6th Edition). New Delhi Thomson And Warsworth.

Additional references

Kothari, C. R. (2009). Research Methodology- Methods & Techniques. (2nd ed.). India: Repro India Limited

Goodwin, C. J. (2002). Research in Psychology: Methods and design (3rd ed.) New York: John Wiley & Sons, Inc

Evans, A. N & Rooney, B. F. (2008). Methods in Psychological Research. USA: Sage

Publications Gregory, R. J. (2000). Psychological Testing: History, Principles, And

Applications (3rd ed.) Boston: Allyn & Bacon.

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core course -4

PSY3IB02- INDIVIDUAL DIFFERENCES

Credits : 4

Hours :4 /week ,Total:64 hours

Objectives:

- To provide theoretical knowledge about systems and processes like intelligence and personality
- To understand the history of intelligence and Personality Testing
- To familiarize the student with various types of tests in Psychology

Module1: Intelligence

Definition, nature and meaning of intelligence,.Determinants of intelligence – Role of heredity and environment. Theories of intelligence- Spearman-Two factor, Cattell-Fluid and crystallized intelligence, Guilford's structure of intellect model, Thurstone's –primary mental abilities, Sternberg- Triarchic approach, Gardner-Multiple intelligence theory, Goleman's emotional intelligence theory. , Extremes of intelligence-Giftedness and Mental retardation

Module 2: Assessment of intelligence, Aptitude and achievement

Assessment of intellectual abilities-history of assessment- Sir Francis Galton, Alfred Binet, Lewis Terman – concept of IQ, intelligence tests-Stanford-Binet intelligence scale, Wechsler scale, Raven's Progressive Matrices, Bhatia's Test Of Intelligence, Seguin-Form Board Test

Define Aptitude and Achievement, Distinction Between Aptitude Test And Achievement Test, Types Of Aptitude Test- DAT, GATB, Sensory Tests, Motor Dexterity Test .

Module3: Personality

Concept of Personality, Freud's theory: instinct theory, Levels of consciousness, structure

of personality, defense mechanisms, psychosexual stages of development. Basic concepts in Individual Psychology. Type theories: general approach. Cattell: source and surface traits, Eysenck: dimensions of personality. Introduction to Humanistic perspective: Rogers

Module 4 : Assessment of Personality

Meaning and purpose of personality assessment. Tools of personality assessment -Self report inventories, Strength and weakness of self report inventories, 16PF, MMPI, EPQ: General outline about these tests. Projective measures of personality – Strengths and weakness of projective tests, TAT, Other measures: Behavioral Observation and Interviews. Measurement of interest- Strong Interest Inventory.

Internal Assessment

Assignment (3 Marks)

- Keeping in mind the concept of emotional intelligence make a self evaluation and submit a report based on the evaluation The report may contain evaluations in different areas of emotional intelligence and suggestions for improvement. .

or

- Visit a school of differentially challenged and give a report regarding the activities carried out to train the children

or

- On the basis of Gardner's Multiple intelligence , find out your area of excellence and explain the reasons

Seminar (3 Marks)

- Choose any one of the personality theories which finds to be very interesting and explain why it is so interesting to you

or

- Prepare a presentation which helps to introduce the concept of "Aptitude and also any one of the different areas of careers and its choices and opportunities " to your 10th or 12th grade friends, who are going to choose their career path.

References

- Passer M.W.&Smith.R E.,(2007).Psychology-the science of mind and behaviour(3rd ed.). New Delhi: Tata McGraw Hill
- Singh, A.K.(2008). Tests, Measurements and research Methods in BehaviouralSciences(3rd ed.). Patna: BharatiBhawan Publishers
- Gerrig R.J &Zimbardo.P.G. (2005).Psychology and Life(17th ed.).New Delhi: Pearson Education. Anastasi, A., &Urbina, S. (2005). Psychological Testing (7thed.).New Delhi: Prentice –Hall Of India.
- Coon, D. (1983). Introduction to Psychology: Exploration and Application. New York: West Publishing Co.
- Morgan,C.T., King, R.A., Weisz, J.R.,&Schopler, J. (1993). Introduction to Psycholgy, 7thed. New Delhi: Tata McGraw Hill

Additional References

- Weiten,W.(2002). Psychology: Themes and Variations, 5thed. New York: Brooks/ Cole PublishingCo.
- 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: McGraw Hill Inc.
- Feldman, R. (2011). Understanding Psychology,10th edition. New Delhi: Tata McGraw Hill.

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core course -5

PSY3IB03- DEVELOPMENTAL PSYCHOLOGY 1

Credits : 3

Hours :3 /week ,Total:48 hours

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, Behaviorist, social, learning, Vygotsky, Periods of Development and Erikson's Theory. Developmental tasks of each stages of development.

Module 2: Prenatal Development

Fertilization- Germinal Period, Embryonic Period, Fetal 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

Newborn 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 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 Piagets 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 end) New Delhi: Tata McGraw Hill Publishing Company

Integrated M Sc PSYCHOLOGY

SEMESTER III-Core Lab -1

PSY4IH01-Experimental Psychology-1-

Hours :4 /week ,Total:64 hours

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.

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 behavioral 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 -6

PSY4IB01- HEALTH PSYCHOLOGY

Credits : 4

Hours :4 /week ,Total:64 hours

Objectives:

- To understand the Psychological, behavioral and cultural factors contributing to physical and mental health
- To study the management of different illnesses
- Introduce health psychology and different models of health.
- Aware about various psychosocial factors and its relation to physical health.
- . Understand life style diseases and techniques to change it.

Module 1: Introduction to Health Psychology-

Definition of health and health psychology, Mind body relationship, Need and goals of health psychology, Biomedical and biopsychosocial models, Advantages of biopsychosocial model

Module 2 : Health behaviours and health habit modifications-

Attitude change and health habit change, Theory of planned behavior, Cognitive behavioural approaches to health behavior change, Health belief model, Trans-theoretical model of health behavior change, Social engineering, Nutrition: Consumption – Nutrition and Health – Weight control and diet – Exercise.

Module 3: Stress and Coping-

What is stress? Theoretical contributions to stress: Fight-Flight syndrome, Selye's General Adaptation Syndrome, Tend -Befriend theory, Psychological appraisal and stress, Chronic stress and health, What is coping? Personality and coping, Coping and external resources, Social support, Basic stress management techniques.

Module 4 : Management of chronic illnesses and terminal illnesses -

Psychological issues in advancing and terminal illness, Emotional responses to chronic illness: Adjustment to dying-Kubler Ross's five stage theory, Chronic Pain Management. Psychological management of terminal illness.

Internal assessment

Assignment (3 marks)

Conduct an interview with a chronically ill patient and report their physical and psycho-social issues as a case study

Or

Compare and contrast Indian health care system with health care system in another country. Describe the similarities and differences and list the pros & cons for both systems (10 points)

Seminar (3 marks)

Identify the risk factors for any one of the following conditions

Heart disease, diabetes, stroke, hypertension, arthritis, smoking, alcoholism, drug abuse, lung disease, AIDS etc

Or

Select one body system and summarise how it works and how this system impacted by our life styles

Reference Books

Taylor E.S. (2006). Health Psychology (6th edition) Mc, Grow Hill Companies, California

Baum A. Gatchel, R.J. & Krantz, D.S. (1997). An Introduction to Health Psychology, New York: McGraw Hill.

Recommended Books

Baum A. Revenson, T.A. & Singer, J.E. (2001), Handbook of Health Psychology, New Jersey, Lawrence Erlbaum.

Dimmarteo M.R. Martin, L.R. (2002). Health Psychology. Boston: Allyn and Bacon.

Feist J. & Linda, B. (1992), An Introduction to Behavior and Health (2nd Ed.) Books/Publishing Company.

Marks, F.D., Murray M., Evans B., and Estacio V. M. (2011) Health Psychology: Theory, Research and Practice (3rd edition).Sage Publications India Pvt. Ltd.

Naima Khatoon (2012). Health Psychology, Dorling Kindersley (India) Pvt. Ltd

Integrated M Sc PSYCHOLOGY

SEMESTER IV-Core course -7

PSY4IB02- COGNITIVE PSYCHOLOGY

Credits : 3

Hours :3/week ,Total:48 hours

Objectives :

- To familiarize the field of Cognitive Psychology
- To enable students to gain an understanding about the development of the field of Cognitive Psychology
- Create awareness about the current shading of the field.

Module 1 :: History and methods of Cognitive Psychology

Define cognitive Psychology, The domains of Cognitive Psychology, Paradigms of Cognitive Psychology: the information processing approach, connectionist approach, evolutionary approach Brief history of Cognitive Psychology: Philosophical, Psychological, and Technological roots

Module 2 Basic Cognitive Processes

Basic units of Thought: Concepts; forming concepts, Types of concepts, prototypes; Images; Language, the structure of Language, Role of language in thinking. Problem solving; Types of problems, steps and barriers to effective problem solving, approaches or strategies of problem solving-trial and error, heuristics, algorithm, forming sub goals, searching for analogies, changing the representation of the problem ;Culture, cognitive style and problem solving.

Module 3 Cognitive Processes –

Creativity-Creative thinking; convergent and divergent thinking; stages of creative thought. Reasoning; Deductive and inductive reasoning. Decision making; Heuristics and judgment-availability heuristics, representativeness heuristics, anchoring heuristics.

Module 4: Individual, aging and gender differences in cognition

Individual differences in cognition: ability differences, cognitive styles, expert and novice differences, Gender differences in skills and abilities, learning and cognitive styles, Aging and cognition

Internal assessment

Seminar (3 marks)

The student has to do at least one of the following activity

Prepare a seminar based on at least five recent studies conducted in any one area of cognitive psychology.

or

Prepare a seminar on the cross cultural differences in any specific area of cognitive psychology

Or

Prepare a seminar about at least one recent research development or research study in Cognitive Psychology

Assignment(3 Marks)

Conduct any study to find out the differences if any in any of the cognitive skills on the basis of gender and age and make a report.

References

Galotti, M.K.,(2008).,Cognitive Psychology: Perception, Attention and Memory.,Wardworth: gengage learning.

Solso.L.R.,(2001).,Cognitive Psychology (6th Edn) .,Pearson Education Pte.Ltd,New Delhi. 65

Kellogg. T. R., (1997) ., Cognitive psychology., Sage Publications , New Delhi.

Sternberg R.J., (2007) ., Cognitive Psychology (5th edn) Delhi: Thomson wardsorth.

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SEMESTER IV-Core course -8

PSY4IB03- DEVELOPMENTAL PSYCHOLOGY –II

Credits : 4

Hours :4 /week ,Total:64 hours

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 13hours

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 15hours

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 12hours

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 14hours

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 (3 Marks)

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 ,Total:64 hours

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 Brothers Publishers.

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

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



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 and Academic - CBCSS UG 2019 - B Sc Psychology Programme - Complementary Course Human Physiology - Scheme and Syllabus- Approved - Implemented w.e.f 2019 Admissions - Orders issued.

G & A - IV - J

U.O.No. 16142/2019/Admn

Dated, Calicut University.P.O, 15.11.2019

- Read:-*1. U.O.No. 4368/2019/Admn dated 23.03.2019
2. Item No.2 in the minutes of the meeting of the Board of Studies in Human Physiology (Single Board) held on 05.07.2019
3. Remarks from the Dean Faculty of Science dated 16.08.2019
4. Item No I.7 in the minutes of LXXX Academic Council held on 05.10.2019

ORDER

The Regulations for Choice Based Credit and Semester System for Under Graduate (UG) Curriculum- 2019 (CBCSS UG Regulations 2019) for all UG Programmes under CBCSS-Regular and SDE/Private Registration w.e.f. 2019 admission has been implemented vide paper read first above.

The meeting of Board of Studies in Human Physiology (Single Board) held on 05.07.2019 has approved the Scheme and Syllabus of Complementary Course Human Physiology for BSc Psychology Programme in tune with the new CBCSS UG Regulations with effect from 2019 Admission onwards, vide paper read second above.

The Dean, Faculty of Science has approved the minutes of the meeting of the Board of Studies in Human Physiology (Single Board) held on 05.07.2019, vide paper read third above and the same has been approved by the Academic Council vide paper read (4).The Vice Chancellor has accorded sanction to implement the Academic Council decision.

Sanction is therefore accorded for implementing the Scheme and Syllabus of Complementary Course Human Physiology for BSc Psychology Programme in tune with the new CBCSS UG Regulations with effect from 2019 Admission onwards.

Orders are issued accordingly.(Syllabus appended)

Biju George K

Assistant Registrar

To

Principals of all Affiliated Colleges

Copy to: PS to VC/PA to PVC/ PA to Registrar/PA to CE/JCE I/JCE IV/JCE VIII/EX and EG Sections/GA I F/CHMK Library/Information Centres/SF/DF/FC

Forwarded / By Order

Section Officer

Scheme and syllabus of the Complementary Course
Human Physiology
of

B.Sc. Psychology (CBCSS - UG)



UNIVERSITY OF CALICUT
2019

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	60	15	75	300

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

Sem ester	Course title	Course code	Contact hours/ Week	Marks			Credits	
				Internal	External	Total		
I	Human Physiology I	PSG1CO1	4	15	60	75	3	
II	Human Physiology II	PSG2CO1	4	15	60	75	3	
III	Human Physiology III	PSG3CO1	5	15	60	75	3	
IV	Human Physiology IV	PSG4CO1	5	15	60	75	3	
						Total	300	12

Pattern of Question paper (Similar for all four semesters):

Questions shall be asked from the whole syllabus 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 sentence	10	10	1	10
	Short answer	10	5	2	10
	Paragraph type	8	5	4	20
	Essay	4	2	10	20
Grand Total					60

B.Sc. PSYCHOLOGY PSG1C01: 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)

REFERENCES

1. Dewitt-Saunders, Biology of the cell.
2. Strickberger W.M-Mac Millon, Genetics.
3. Gerald Karp, Cell and Molecular Biology: Concept and Experiments.
4. Roothwell, Human Genetics, Prentice Hall.
5. Lodish;Verk; et.al; Molecular Cell Biology, W.H. Freeman publishers.
6. De Robertis, E. D. P. and De Robertis, E. M. F., Cell and molecular Biology, 7 Edn, Hol-Saunders International Editions.
7. Harold Harper, Review of Physiological chemistry, Marusan Co.
8. Lehninger Albert, Biochemistry, Kalyani publications, N. Delhi.
9. Plummer David T, An introduction to practical Biochemistry, Tata Mac Graw Hill.
10. Stryer Lubert & Hall John E, Biochemistry, Freeman.
11. Voet Donald & Voet Judith, Biochemistry, John Wiley sons, US.
12. Text book of Medical Physiology, AP Krishna, Scientific publication, New Delhi.
13. Molecular Biology of the Gene by James D. Watson; Michael Levine; Tania A. Baker; Alexander Gann; Stephen P. Bell.
14. Molecular Cell Biology, by Harvey Lodish, Arnold Berk, S Lawrence Zipursky, Paul Matsudaira, David Baltimore, and James Darnell.
15. Cell and Molecular Biology by E.D.P . De Robertis and E.M.F. De Robertis Jr.
16. Molecular biology of cells by B. Alberts,D. Bray, J. Lewis.
17. Molecular Cloning: A laboratory manual by Sambrook & Russel.
18. Genetics: Principles and analysis by Daniel L Hartl.

B.Sc. PSYCHOLOGY PSG2C01: 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)

REFERENCES

1. Schneider A.M & Tarshis B., An introduction to Physiological Psychology, Random House, New York.
2. Guyton & Hall - Textbook of Medical Physiology, 12 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.

B.Sc. PSYCHOLOGY PSG3C01: 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)

REFERENCES

1. Guyton & Hall, Textbook of Medical Physiology 12 Edn., Saunders.
2. Barrett E. Kim, Barman M. Susan et.al; Ganong's review of Medical Physiology, Tata McGraw Hill Education Pvt. Ltd.
3. Sarada Subrahmanian and K. MadhavanKutty, A Text Book of Physiology. Oriented Longman Publication.
4. Harold Harper, Review of Physiological chemistry, Marusan Co.
5. Lehninger Albert, Biochemistry, Kalyani publications, N. Delhi.
6. Plummer David T, An introduction to practical Biochemistry, Tata Mac Graw Hill.
7. Stryer Lubert & Hall John E, Biochemistry, Freemann.
8. Voet Donald & Voet Judith, Biochemistry, John Wiley sons, US.

B.Sc. PSYCHOLOGY PSG4C01: 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)

REFERENCES

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, 8 edition, Pearson.