

North Maharashtra University, Jalgaon
Syllaba for F.Y.B.Sc.

Psychology Paper - I : General Psychology

[w.e. from June 1997]

1. The nature of Psychology and its scientific methods.

i) A definition of Psychology.

ii) The work of Psychologists or branches of Psychology - Clinical Psychology, Counseling Psychology, School and Educational Psychology, Experimental and Physiological Psychology, Industrial and Organizational Psychology, Social Psychology, Development Psychology, Community Psychology.

iii) Psychology as a science - Empirical observation, Systematic approach and theory, Measurement, Definition of terms.

iv) Scientific methods in Psychology - Experimental methods, Systematic observation.

{Periods - 10}

2. Evolution, Genetics and Behaviour :

i) Evolution and Behaviour :

The nature of evolution, Species specific behavior patterns, The evolutionary heritage in human beings.

ii) Genetics and Behaviour :

Some definitions and genetic, Principles - Chromosomes and Genes, Twins, Chromosomes and behavior, The genetic of human intelligence, The genetics of personality traits the genetics of behavior disorders.

iii) Nature and nurture.

Nature and nurture working together. The contribution of nature and nurture. - Impoverishment of environment, Enrichment studies.

{Periods - 10}

3. Sensory Process :

i) Sensory channels, Receptor stimulation, Transduction and codes.

ii) Vision - The physical stimulus for vision. Structure of the eye and seeing. The retina and seeing. Psychophysical relationship. Afternt codes in vision.

iii) Hearing - The physical stimulus for hearing. The structure and functioning of the ear. Auditory experience of pitch, loudness and timbre.

iv) The chemical senses and the skin senses smell, Taste, Pressure or Touch, Temperature sensation. Cold and Warmth pain.

{Periods - 8}

4. Attention and Perception :

- i) Attention - Nature of attention, Types of attention, Determinants of attention, Span of attention, Distribution of attention and fluctuation of attention.
 - ii) Form perception - Figure and ground in form perception contours in form perception. Organizing factors in form perception.
 - iii) Constancy of Perception :
Constancy of size, Constancy of Brightness.
 - iv) Depth perception.
Monocoulor and Binocular cues for depth perception.
 - v) Movement perception : Real motion, Appaent motion.
- (Periods - 8)

5. Motivation and Conflict :

- i) The nature of motivation, Motivational cycles.
 - ii) Biological motivation : Hunger, Thirst, Sex drive.
 - iii) Social motives : Achievement, affiliation, power.
 - iv) Exploration, Competence and self-actualizing.
 - v) Frustration and Conflict : Sources of frustration, Types of conflict
- (Period - 8)

6. Emotions :

- i) Expression and perception of emotion.
- ii) Sources of emotional feeling : Pleasure, Fear and anxiety, Anger and hostility, Depression and grief.
- iii) The physiology of emotion : The autonomic nervous system, Pattern of bodily response in emotion. The brain and emotion. Arousal and psychosomatic reactions.
- iv) Theories of emotion (James long and Canon bard), Lie detector.

(Periods 8)

7. Learning :

- i) Nature and definition.
- ii) Classical conditioning :

Classically conditional responses. Extinction and spontaneous recovery in classical conditioning, Stimulus generalization and discrimination in classical conditioning. Significance of classical conditioning.

- iii) Operant Conditioning :

The basics of operant conditioning. Shaping, comparison of classical and operant conditioning, extinction in operant conditioning stimulus generalization and stimulus discrimination in operant conditioning. Significance of operant conditioning.

- iv) Cognitive Learning :

Latent learning, insight learning, imitation and modeling.

(Periods - 10)

8. Human Learning and Memory :

- i) Memory stages :
Atkinson and shiffrin model of memory. The sensory register. The short term store and the rehearsal buffer. The long term store.
- ii) Levels of processing and amount of elaboration.
- iii) Long term memory :
Encoding and storage of information. The role of organization and imaginary in encoding. Encoding for retrieval. Long term memory organization : The Tip-of-the tongue phenomenon, Semantic and episodic memory. Retrieval from long term memory.
- iv) Forgetting :
Methods of measuring memory. Encoding, Organization and Retrieval Problems, Interference.
- v) Efficient learning and remembering and skill verbal learning. Study methods an verbal learning. (Periods - 10)

9. Intelligence :

- i) Nature and definition of intelligence.
- ii) The measurement of intelligence :
Intelligence tests - Stanford - Binet intelligence scale - Wechsler test, Deviation IQ.
- iii) Individual differences in intelligence :
Mental subnormality (Retardation). Levels of mental retardation - The mentally gifted.
- iv) Group differences in intelligence :
Differences related to home environment racial differences. (Periods - 10)

10. Personality :

- i) Definition and nature of personality.
- ii) Personality as a set of traits. Trait theory, Some issuers related to trait theory.
- iii) Theories of personality :
Frend's psychoanalytic theory, Jung's analytical psychology. Adler's individual psychology.
- iv) Defence mechanisms :
Repression, suppression, reaction formation, projection rationalization, displacement, compensation, regression, sublimation. The use of defence mechanism.
- v) Personality Assessment :
Interview, questionnaire, projective technique. (Periods - 12)

Books Recommended :

Text Book :

- 1) Introduction to psychology
Morgan, King and Robinson
6th edition McGraw Hill

Reference Books :

- 1) Introduction to psychology
Munn and others, Oxford.
- 2) General psychology - Henry
Garret E.PM. edition.

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Psychology for F.Y.B.Sc.
Paper II Experimental Psychology

1. THE SCOPE OF EXPERIMENTAL PSYCHOLOGY :

Experimental psychology as a method. (e.g. Experimental method)

Variables :

- Independent variables, Dependent variables, Relevant variables, Qualitative and quantitative variables, Stimulus and response as variables. Experimental control of variables. Experimental and control groups. Statistical significance of experimental results. Description and explanation. Forms of behavior studied in experimental psychology. Experience and behavior.

(Periods - 10)

2. THE PSYCHOPHYSICAL METHODS :

The basic problems of Psycho Physics :

- Detection of minimal stimulus. Detection of minimal stimulus difference. Judgment of relation among stimulus.
- The basic concept of psychophysics :
Sensitivity, Threshold, Point of subjective equality. Variable and constant error.

Experimental and Quantitative methods in Psychophysics.

- The method of limit :
- Determination of absolute threshold by method of limit.
- Determination of differential threshold by method of limit.
- The method of constant stimuli :
- Determination of absolute threshold by method of constant stimuli. Determination of differential threshold by method of constant stimuli.
- The method of average error :
- Determination of PSE and DL. By method of average error.
- The judgment of intervals.
- Comparison of experimental procedures.

(12 periods)

3. AUDITION :

- The auditory stimulus.
- The physical dimensions of auditory stimulus.
- Auditory discrimination :
- Determination of auditory area. Differential sensitivity to frequency and intensity.
- Attributes of auditory experience pitch as a function of frequency - pitch as a function of intensity - Loudness as a function of intensity - Loudness a Function of frequency - other attributes.
- Physiological basis of pitch and loudness.
- Beats, Different tones and masking.
- Aural harmonics.
- Localization of sounds.
- Auditory fatigue.
- Speech, Hearing and communication.
- Special problems of control in auditory experiments.

4. VISION :

- The visual stimulus.
- The dimensions of color.
- Stimulus mixture - Two component mixture, three component mixture.
- After images - Positive after images, negative after images.
- Dark adaptation - Dark adaptation experiment, Dark adaptation of rods and cones, Determination of the rate and amount of dark adaptation.
- Light adaptation.
- Visual Acuity.
- Special and temporal summation.
- The Duplicity Theory.
- Special problems of control in visual experiment.

(Periods - 10)

5. PERCEPTION OF COLOR AND FORM :

- Modes of appearance of colors - Film colors, surface color or object colors, Bulky colors, Transparent, Lustrous and Luminous colors.
 - The color of objects - Microstructure, Brightness differences, Albedo and Illumination.
 - Color constancy - Color blindness.
 - Color contrast - Achromatic contrast, Chromatic contrast.
- Figure and ground perception : The experience of figure and ground, Determination of figure, Ground segregation. The functional properties of figure and ground...
- Perceptual Grouping.
 - Form constancy.
 - Geometrical illusions.

(Periods - 10)

6. REACTION TIME AND ASSOCIATION :

- Reaction time, Judgment time and Latency.
- Standard apparatus in Reaction time experiment.
- The determinants of reaction time - Reaction time as a function of stimulus characteristics, Reaction time as a function of set and attributes. Individual differences in reaction time.
- Association - The concept of association.
- Types of verbal classification of association experiments.
- Clinical & diagnostic use of association

(8 periods)

7. MEASUREMENT OF LEARNING :

- Definition of basic terms - Learning, retention, stimuli and Response, Association.
- Types of learning - Verbal learning, Motor skills, Problem solving.
- Measurement of learning.
- Learning curves.
- Conditioning
- A typical conditioning experiment.
- The main concepts of conditioning.
- The main parameters of conditioning experiments.
- Secondary determinants.
- Types of conditioning experiments.
- Conditioning an instrumental response.
- Quantitative methods in conditioning.
- Special problems of control in conditioning experiments.
(Periods - 10)

8. EXPERIMENTAL STUDY OF HUMAN LEARNING :

- Methods of practice.
- The basic variables in learning experiments.
- Performance as a function of what is learned.
- The effects of serial position.
- Performance as a function of how learning.
- Proceeds - set and motivation - Distribution of work.
- Individual differences among learners.
- Special problems of control in learning experiments.
(Periods - 8)

9. RETENTION AND FORGETTING :

- The measurement of retention - Recall, Recognition, Relearning, Reconstruction, Speed of response.
The temporal course of forgetting.
- The determinants of the rate of forgetting.
- Retention as a function of conditions of learning.
- Retention as a function of interpolated activity, Retroactive inhibition.
- Retention as a function of Test Situation.
- Reminiscence, Experimental demonstration of reminiscence, Determinants of reminiscence.
(Periods - 10)

10. TRANSFER OF TRAINING :

- Types of transfer.
- Design of transfer experiments.
- What is transfer in transfer of training.
- The experimental analysis of transfer.
- Cross - Education.

Text Books :

1. Experimental Psychology
Leo Postman and James P. Egan. (Kalyani)
2. Experimental Psychology
M.R. Damato.
(TMH Edition (Only for I and II topics))

REFERENCE BOOKS :

1. Experimental Psychology - Underwood
Woodworth.
2. Experimental Psychology
Schoshbers.
3. Experimental Psychology
V.K.Kothurkar and S.J. Vanarase.

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Psychology Paper - III

Experimental Psychology Practicals Commencing from June 1997

A) Students should perform at least 18 experiments from the following.

- 1) Method of limits
a) RL b) DL.
- 2) Method of constant stimuli
a) RL b) DL.
- 3) Method of average Error - Galton Bar.
- 4) Measurement of illusion.
- 5) Rational Color Zones.
- 6) Color Blindness Test.
- 7) Perceptual Grouping.
- 8) Measurement of Reaction Time.
- 9) Conditioning hand withdrawal.
- 10) Maze learning.
- 11) Bilateral Transfer, Mirror Tracing / Cup and ball.
- 12) Massed Vs. distributed practice.
- 13) Serial position learning.
- 14) Retroactive inhibition.
- 15) Administration of Personality Test.
- 16) Adjustment inventory.
- 17) Interest inventory.
- 18) Manual dexterity or finger dexterity test.
- 19) Rational learning.
- 20) Multiple choice problem.
- 21) Free and control Association.
- 22) Koh's block test of intelligence.

B)

STATISTICS :

- 1) Measurement of central tendency-Mean, Median, Mode, S.D.
- 2) Co-efficient of correlation by rank difference method.
- 3) Quartile e.g. Q, Q1, Q3.
Simple examples may be set for practical examination.

BOOKS :

A) For Experiments :

- 1) Laboratory manual in experimental psychology - Munn.
- 2) Experiments in psychology - Parmeswarn.
- 3) Elementary experiments in psychology - Kuppuswamy.
- 4) Experiments in psychology - Jalota.
- 5) Experiments in psychology - Mohasin.
- 6) Experimental psychology - Postman Egan.

B) For Statistics :

- 1) Statistics in Education and Psychology Garret.
- 2) Measurement and evaluation in Psychology and education - Astana Agrawal. (Vinod Pustak Mandir, Agra - 2).

Note: Practical examination will be held annually. A batch of maximum (12) Twelve students will constitute one batch and each batch will conduct the practical twice in a week. Duration of the practical will be three clock hours in which candidate will perform, conduct an experiment and write its report allotted to him/her with statistical problem and viva. Students will visit an industry, mental hospitals, general hospitals, central Jail, ashram school or such correctional institute and organizations and prepare a report of the tour or visit.

The division of marks of practical examination is as follows :

Journal : 20, Statistics : 20, Instruction and Conduct : 20,
Report Writing : 20, and Viva : 20, Total Marks : 100.

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