

Test Code : RZI/RZII (Short Answer type) 2007

Junior Research Fellowship in Psychology

The candidates for Junior Research Fellowship in Psychology are required to take short answer type tests – Research methodology in the forenoon and Psychology in the afternoon session.

The syllabus and the sample questions for both tests are given below.

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Syllabus for Research Methodology

1. Introduction : Meaning and characteristics of scientific research. Steps in research, Report writing for publishing, Hypothesis testing, Interpretation of data, Ethical issues in Psychological research.
2. Methods in Psychological research : Types of Variables,. Cross sectional and longitudinal methods, Observation, Applied behaviour analysis, Experimental, Quasi- experimental, Case study, survey research, Interview, Content analysis, Projective techniques.
3. Sampling : Kinds of samples, sample size determination, probability and non-probability sampling methods.
4. Psychological Assessment : Characteristics and classification of tests, Item writing, Item analysis, Methods of Reliability and Validity, Norms.
5. Statistical analysis : Graphic methods, Normal probability curve, non parametric tools, ANOVA, Correlation, Partial and multiple regression, Data reduction techniques - Factor analysis, Cluster analysis.

Sample Questions for Research Methodology

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(Question no. 1 is compulsory and answer any 4 out of the rest)

1. What is item analysis ? Discuss various steps of item analysis.
Suppose you have noticed that few subtest scores of one test are not significantly correlated with the total test score. How do you increase correlation coefficients of those subtests with total test score ?
2. The score distribution in an examination of 100 marks is known to be normal with mean score = 55 and SD of scores =7.
What percentage of students is expected to score in the range of 50-60 ?
In a group of 500 students taking this test, how many are expected to have scored between 50-60 ?
Determine the 90th percentile point of the score distribution.
Given $p(Z < 0.33) = 0.6293$ $p(Z < -1.28) = 0.10$
3. What is the difference between qualitative and quantitative data analysis ? One philanthropist noted gradual decrease in attendance of elders in the self-help group developed by him. Suppose you are asked to interview 51 elders for assessing their intention to attend the group. Out of 51, 25 people expressed favorable, 10 people expressed indifferent and 16 people expressed unfavorable attitude. Do these results indicate a significant trend of opinion? The critical value of relevant statistic at 5% level of significance is 7.82.

4. Four problems are given below. Study them carefully. Choose one problem and outline its research plans in both experimental and non-experimental scientific inquiries.
- How does leadership style affect group performance ?
 - Does extrinsic reward undermine intrinsic motivation ?
 - How does anxiety affect achievement in mathematics ?
 - How does feedback help in reducing anxiety ?
5. After Tsunami, many relief camps were formed around the affected areas. Suppose you are asked to develop attitude scale to assess the attitudes of victims towards relief system. Which method of attitude scale construction technique would you follow and why ? Develop a measure for the same.
6. Construct an Ogive for the following distribution of scores:

Scores	frequency
195-199	1
190-194	2
185-189	4
180-184	5
175-179	8
170-174	10
165-169	6
160-164	4
155-159	4
150-154	2
145-149	3
140-144	1
	50

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Syllabus for Psychology

1. Cognitive processes : Information processing model, Intelligence and measurement, Types and assessment of aptitudes.
2. Personality : Determinants, Type and trait theories of personality, psychoanalytic, social learning and humanistic theories of personality, Erikson's stages of psychosocial development, Self-efficacy.
3. Industrial and Organizational psychology : Job analysis, selection, methods of training, supervision and leadership, organizational climate, group morale, job satisfaction, structure of organization, organizational health and techniques of organizational development.
4. Educational psychology : Learning theories, class room climate. Teacher-pupil interaction, programmed learning, reading and writing motivation.
5. Developmental psychology : Theories of development, Maturation and scales for measuring maturation, Concept development and Piaget's theory, Language development, Social development, measurement of children's attitudes and values, Emotional development, Moral development, Measurement of children's motivation and affect, Personality development and appraisal to assess personality, Parent child relationship in development of personality, Children with special needs and exceptional children.
6. Social and health psychology : Stress and coping strategies, Pain and management, Quality of life, Culture and health, Pro-social behaviour, Violence in society and community care, Chronic and terminal illness, Gerontological problems and adjustment in old age, Psychotherapy and counseling.

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Attempt any two from Group-A and any three from Group-B

Group-A

1. What is memorizing process? Discuss different experimental methods for memory study.
2. What is measured by personality inventory? Can we measure the same thing by using tests of attitude and values? Give reasons.
3. Draw picture of cerebrum and discuss its structure and role on cognitive functions.

Group-B

4. Draw a sociogram of one hypothetical group and explain the pattern of interpersonal relations within the group.
5. Organizational climate depends on the styles of leadership – Discuss.
6. Is counseling important in school? State the difference between directive and indirective counseling.
7. Socialization process depends on cognitive development of children – Explain.
8. State the differences between psychoanalytic therapy and behavior therapy.