REV-00
MPY/04/08 2014/01

MA PSYCHOLOGY
First Semester
Research Methodology I
(MPY- 03)

Duration: 3Hrs. **Full Marks: 70**

Part-A (Objective) =20
Part-B (Descriptive)=50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

1. Answer the following in short- (any *five*) **2 × 5=10**

a) Mention two conditions of determining the form of relationship between treatment means or treatment sums.
b) Write two limitations of Sign test.
c) What is continuous variable? Give example.
d) What is control group? Give example.
e) What do you understand by extraneous variable?
f) Write two conditions/ situations to use balancing technique to control the extraneous variable.
g) Distinguish between dependent and independent variable.

2. Answer the following briefly- (any *five*) **3× 5=15**

a) Write three conditions to use non-parametric tests.
b) Explain three types of common variances of any scientific investigation.
c) State characteristics of research.
d) Explain Counterbalancing.
e) Define variable. What do you understand by active and attribute variable?
f) What is constancy of conditions?
g) Draw the General form of Partitioning of Total variation and df for Cross-Over Design.

3. Answer the following questions- (any *five*) **5× 5=25**

a) What is non-parametric test? Write the conditions to use parametric test.
b) Explain the Ethical issues of psychological research.
c) Explain the basic principles of Experimental Design.
d) A typing school claims that in an intensive course, it can train students to type, on the average, at least 60 words per minute. A random sample of 15 graduate is given a typing test and the median number of words per minute typed by each of these students are given below. Test the hypothesis that the median typing speed of graduates is at least 60 words per minute.

Students	Words per minute
A	81
B	76
C	53
D	71
E	66
F	59
G	88
H	73
I	80
J	66
K	58
L	70
M	60
N	56
O	55

e) A researcher wished to evaluate the effectiveness of micro teaching and stimulation in developing certain teaching skills among student –teachers of a teacher training institution. He divided all the 40 student teacher of the college into two groups A and B by randomly assigning 20 to each of the groups. Group A was trained in various skills of teaching through micro-teaching and the group B was trained through simulation technique. After a period of two months of training, the student teachers were rated in the teaching skill by supervisors. The rating scores of the student teachers are given in the following table.

GROUP A	GROUP B
90	46
78	42
75	65
72	61
75	64
83	82
73	69
80	66
74	56
67	48
63	68
45	44
55	85
84	83
89	71
77	87
70	76
58	50
47	59
92	79

N1=20 N2=20

Using the Mann-Whitney U test, test the null hypothesis that there was no difference between the two techniques of teaching at the .05 level.

f) A group of 10 subjects was randomly assigned to 3 treatments. The outcome of the treatments are as follows-
Treatment1= 60.2,Treatment2=85.4 and Treatment3=43.1, and its summary of ANOVA for Treatments and Error is given below

Source of Variation	SS	df	MS	F
Treatments	90.56	2	45.28	11.52
Error	106.17	27	3.93	

Find out the trend by using the method of orthogonal polynomials.

g) Following is the summary of observation obtained with a 5x5 Latin Square with one observation in each cell

			Shifts		
Days	1	2	3	4	5
Mon	10	15	11	13	9
Tue	10	12	16	10	12
Wed	19	8	12	10	8
Thur	9	12	10	14	12
Fri	12	11	8	10	15

Treatments

D	B	A	C	E
E	C	B	D	A
B	E	C	A	D
A	D	E	B	C
C	A	D	E	B

With the help of treatments given above, calculate the observations by applying Latin square design and test its significance at .99 confidence level.

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(The figures in the margin indicate full marks for the questions)

Duration: 20 minutes **Marks – 20**

PART A- Objective Type

1. Fill in the blanks- **1×5=5**

a) _____behaviour cannot be ordered in magnitude.

b) _____is the blueprint of the detail procedure of testing the hypothesis and analysis of the obtained data.

c) Local control means balancing, blocking and _____of subjects.

d) By using _____one can determine the trend of the means.

e) In trend analysis, the treatment sum of squares are subdivided into orthogonal components with polynominal such as _____, _____, _____etc.

State True or False- **1×5=5**

a) Dependent variable is the variable on the basis of which prediction about the independent variable is made. **(True /False)**

b) Noise, temperature etc. are the examples of subject variable. **(True /False)**

c) 5 ½ and 7 ½ and 6 ½ are the examples of discrete variable. **(True /False)**

d) Z test is parametric test. **(True /False)**

e) When each letter occurs just once in each row and just once in each column, resulting arrangement is called Randomized Blocking. **(True /False)**

3. Choose the correct option- **1×5=5**

a) Which one of the following variable refers to those characteristics of subjects, which produces changes in the behavioural measure
a) Subject variable b) Task variable c) Environmental variable. d) None of the above

b) If teaching method is independent variable then temperature of the room will be the –
a) Dependent Variable b) Extraneous Variable c) Task Variable d) Only I And II

c) Extraneous variable can be controlled by which of the following-
a) Elimination b) Constancy Of Condition c) Both I And II d) None Of The Above

d) In trend analysis, for four treatment conditions, the degrees of freedom will be
a) 2df b) 3df c) 1df d) only I and III

e) One of the following is used for the post-hoc comparisons
a) Duncan test b) Z test c) Sign test d) U test

4. Answer the following question in one or two line- **1×5=5**

a) Give example of task variable.

_____

_____

b) What is replication?

_____

_____

c) What is Population Parameter?

_____

d) What is blocking?

_____

_____

e) Draw the general form of partitioning of the total variation and df for Randomized Complete Block Design.

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