

Enrolment No. _____

PARUL UNIVERSITY
PARUL INSTITUTE OF PHARMACY
B.PHARM EIGHTH SEMESTER
SECONDINTERNAL THEORY EXAMINATION: 2020-21

Subject Name: Pharmaceutical Product Development

Subject Code: BP813ET

Time: 10:00-11:15

Date: 15/03/2021

Total Marks: 30

Instructions: Each question carry one marks.

1. **A 2 X 2 factorial design**
 - (a) is called a one-way ANOVA.
 - (b) results in a four-cell matrix.
 - (c) cannot yield interactions.
 - (d) must include an organismic independent variable.

2. **What does an A X B interaction mean in a two-way ANOVA?**
 - (a) There must be significant main effects for Factors A and B.
 - (b) The main effects for Factors A and B must be short of significance.
 - (c) The affect of factor A depends on the level of factor B.
 - (d) If there are significant main effects, they must be interpreted first before interpreting the interaction.

3. **Factorial experiments**
 - (a) include two or more dependent variables.
 - (b) include two or more independent variables.
 - (c) focus on unmeasured factors.
 - (d) focus on organismic factors.

4. **What is the major advantage of within-subjects designs over between-subjects design?**
 - (a) They require fewer participants.
 - (b) They require less time.
 - (c) They are more sensitive.
 - (d) They are better tests of causality.

5. **Factorial designs**
 - (a) include no more than one research hypothesis.
 - (b) cannot test participants across more than one condition.
 - (c) are ineffective when matched participants are included.
 - (d) contain more than one null hypothesis.

6. **Factorial designs allow us to study both _____ effects of the independent variables on the dependent(s).**
 - (a) main and interactive
 - (b) dependent and independent
 - (c) symbiotic and dichotomous
 - (d) rank order and correlational

7. **Which of the following statements is correct about interactions?**
 - (a) They are enhancements of the effect.
 - (b) They are additive effects.
 - (c) They are spurious effects.
 - (d) They occur only in interaction with organismic dependent variables.

8. **Within-subjects factorials**
 - (a) must include independent groups of participants.
 - (b) are also called "repeated measures factorials."
 - (c) use statistics that take into account the correlated nature of the data.
 - (d) both b and c

9. **What are the factors in a factorial design?**
- (a) the independent variables
 - (b) the dependent variables
 - (c) the organismic variables
 - (d) the experimental variables
10. **In a repeated measures factorial design,**
- (a) there must be at least two independent groups.
 - (b) participants must be matched on at least two potentially confounding variables.
 - (c) there is no problem of sequence effects.
 - (d) sequence effects must be controlled.

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Instructions:

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.2	Long Answers:(Any One)		
(1)	Define Parentral Dosage Forms. Mention about additives used in Parentral dosage forms.		10
(2)	Write short note on "Full Factorial Design" with layout and description.		10
Q.3	Short Answers: (Any Two)		
(1)	Define Experimental Design with its importance DOE steps and significance.		05
(2)	Explain the terms: QTPP, Design space, CQAs, CPPs, Control strategy		05
(3)	Give design layout of 2^3 and 3^2 factorial design.		05
