



Code No: 12260/PCI

## FACULTY OF PHARMACY

B. Pharmacy - VIII - Semester (PCI) (Main.) Examination, July 2021

Subject: Biostatistics and Research Methodology

Time: 2 Hours

Max. Marks: 75

Note: Answer Seven questions from Part -A, any One questions from Part- B and any Five questions from Part- C

### Part - A (7x3=21 marks)

1. What do you mean by biostatistics? Give its importance in pharmacy
2. Describe the types of dispersion
3. Calculate range for individual series – X : 120 170 240 100 105 205 300 160 150 180
4. What is the significance of probability?
5. Describe the properties of normal distribution
6. What is factorial design?
7. Name the open source graphical user interfaces supported by R.
8. What is observational study? Give an example.
9. What are the various statistical methods used in excel?
10. A random sample of size 100 is taken from the population with standard difference  
5.1 Calculate the standard error of mean

### Part - B (1x14=14 marks)

- 11.a) Explain the applications, merits and demerits of correlation  
b) Calculate the Karl person's coefficient of correlation for the following data:

X	7	6	5	4	3	2	1
Y	18	16	14	12	10	6	8

- 12.a) What is SPSS? Explain the important SPSS models  
b) Explain 'Two Tailed test of hypotheses?
13. Two independent samples of 7 and 8 items respectively had the following readings. State, if the two estimates of population variance differ significantly?  
(Given the tabulated value = 4.21)

Sample A	10	8	9	13	11	12	9	
Sample B	15	13	14	11	12	10	8	6

### Part - C (5x8=40 marks)

14. Discuss the procedure for wilcoxon – signal rank test for one sample
15. What is experimental design? Explain its principles
16. Write short notes on different types of ANOVA
17. What is population? Explain the difference between small sample test and large sample test.



18. Obtain a line of regression of Y on X for the following data

Age in Yrs (X)	66	38	56	42	72	36	63	47	55	45
Blood pressure (Y)	145	124	147	125	160	118	149	128	150	124

19. The average number of phone calls per minute coming between 2pm-4pm is 2.5. Determine the probability that during one particular minute there will be i) 4 or less ii) more than 6 calls.

20. The Height of 10 males of a given locality found to be 70, 67, 62, 68, 61, 68, 70, 69, 64, 66 inches. Is it reasonable to believe that the average height is 64 inches? Test at 5% significance level for 9 degree of freedom. (Give  $t_{0.05} = 1.83$  for 9 d.f)

21. The following figures shows disease count from a region over a span of 1 year. Represent the data by a pie diagram.

DISEASE	COUNT
Jaundice	22
Tuberculosis	18
Typhoid	32
Malaria	15
Dengue	26

22. An average of 5 cars arrives per hour at a restaurant. Assume that the number of cars arriving per hour follows Poisson distribution.

- What is the probability that exactly 5 cars will arrive in a given hour?
- What is the probability that at least 3 cars arrive in a given hour?

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Code No: 12261/PCI

## FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main) Examination, July 2021

Subject: Social and Preventive Pharmacy

Time: 2 Hours

Max. Marks: 75

**Note: Answer Seven questions from Part -A, any One questions from Part- B and any Five questions from Part- C**

### Part A (7x3=21 marks)

1. Write about nutritional deficiencies.
2. Define public health.
3. Write about personal hygiene and health care.
4. Write about drug addiction-drug substance abuse.
5. Write a short note on national programme for prevention and control of deafness Objectives and outcome.
6. Write about health promotion.
7. Write about social health programme.
8. Write a note on improvement in rural sanitation.
9. Write a note on integrated disease surveillance program.
10. Write a note on national urban health mission.

### Part B (1x14=14 marks)

11. a) Explain about malnutrition and its prevention.  
b) Explain about balanced diet.
12. Explain general principles of prevention and control of cholera, dengue, pneumonia, hypertension and diabetes mellitus.
13. a) Explain national health program, its objectives, functioning and outcome of HIV&AIDS control programme.  
b) Explain about national leprosy control programme.

### Part C (5x8=40 marks)

14. Explain universal immunization programme and pulse polio programme.
15. Explain national health intervention programme for mother and child.
16. Explain national tobacco control programme.
17. Explain national malaria prevention program.
18. Write a note on functions of PHC and improvement in rural sanitation.
19. Explain general principles of prevention and control of ebola virus and dengue.
20. Explain national mental health program objectives, functioning and outcomes.
21. Explain national programme for control of blindness objectives, functioning and outcomes.
22. Explain the concept of prevention and control of disease and social causes of diseases

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Code No: 12266/PCI

## FACULTY OF PHARMACY

B. Pharmacy VIII - Semester (PCI) (Main) Examination, July 2021

Subject : Computer Aided Drug Design (Elective-I/II)

Time: 2 Hours

Max. marks: 75

**Note: Answer Seven questions from Part –A, any One questions from Part- B and any Five questions from Part- C**

### Part A (7x3=21 marks)

1. Define 'Bioisosterism', Explain its significance
2. What are independent and dependent variables in QSAR analysis? Provide a model QSAR equation
3. Explain the significance of partition coefficient
4. Write briefly about de novo drug design
5. Differentiate between lead and drug
6. What is a database? Give its advantages
7. Define the terms 'bioactive conformer' and 'energy minimization'.
8. Explain briefly about global conformational minima in molecular modeling
9. What is a pharmacophore? How its determination is useful in drug design.
10. What are pharmaceutical databases? Give examples

### Part B (1x14=14 marks)

11. Define 'Virtual screening'. Write in detail about drug-likeness screening
12. Explain Hansch analysis and its role in predicting biological activity. Write its advantages & Disadvantages
13. Describe various stages involved in drug discovery and development.

### Part C (5x8=40 marks)

14. Explain about lead discovery based on traditional medicine
15. Classify bioisosteres with examples
16. What is bioinformatics? Explain various bioinformatics tools used in drug design
17. Describe Free-Wilson QSAR analysis
18. Explain the significance and determination of Hammett's substituent constant in QSAR analysis
19. Explain molecular docking process and its significance in drug design
20. Explain drug metabolism based lead discovery with examples
21. List out various cheminformatics tools used in drug design. Explain any one
22. What is molecular mechanics? Explain its role in molecular modeling

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Code No: 12268/PCI

**FACULTY OF PHARMACY**

**B. Pharmacy VIII - Semester (PCI) (Main) Examination, July 2021**

**Subject : Cosmetic Science (Elective-II)**

**Time: 2 Hours**

**Max. marks: 75**

**Note: Answer Seven questions from Part –A, any One question from Part- B and any Five questions from Part- C**

**Part A (7x3=21 marks)**

1. Define and classify cosmetics
2. Write applications of humectants
3. What is Ceramide?
4. What is facewash? Enlist the ingredients used in face wash
5. Define SPF (Sun protection factor)
6. Write role of turmeric in skin care
7. What is the role of Neem & Clove in oral care products
8. Explain hair combing properties
9. Give the symptoms and treatment of dry skin
10. What is prickly heat?

**Part B (1x14=14 marks)**

11. Explain basic structure of skin with neat labelled diagram. Write in detail functions of skin
12. Discuss the formulation building blocks of i) Hair care product ii) Oral care Product
13. Write a note on : a) Sebumeter b) Melanine pigmentation

**Part C (5x8=40 marks)**

14. Explain hair growth cycle
15. Write in detail about evolution of cosmeceuticals from cosmetics
16. Discuss various advantages and disadvantages of cold cream
17. Define and classify surfactants with example. Write applications of surfactant
18. Give BIS (Bureau of Indian Standards) specification for tooth paste
19. Explain analytical methods for skin cream
20. Write a note on Syndet bars
21. Explain mechanism of action of antiperspirants and deodorants
22. Explain various elements of healthy scalp

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