

Bachelor of Pharmacy
Eighth Semester Main Examination, Aug/Sep 2020
Biostatistics and Research Methodology [BP-801T]

Time: 3:00 Hrs**Max Marks 75**

- Note :** (i) All parts of the question paper are compulsory.
(ii) All question of each part to be attempt at one place.

Part-A**Q.1 Multiple Choice Questions.****[1×20 = 20 Marks]**

- (i) The application of statistical method in biology is called-
(a) Statics in biology (b) Statics in Vivo
(c) Biostatistics (d) All of this
- (ii) Who is regarded as father of as biostatistics-
(a) Fisher (b) Karl Pearson
(c) Francis Galton (d) Francis bacon
- (iii) The term biometric was coined by -
(a) Fischer Karl Pearson (b) Water Beldon
(c) Both a and b (d) Francis Galton
- (iv) The branch of biostatic that deal with method of collection organization and presentation of data is called as -
(a) Inferential biostatistics (b) Descriptive biostatistics
(c) Both a n d comparative (d) Biostatistics
- (v) In biostatistics group of individuals taken for study is called-
(a) Block (b) Population
(c) Group (d) Flock
- (vi) The word statics in German means-
(a) Calculations (b) Government
(c) Mathematics (d) Classification
- (vii) Biostatistics is also called as-
(a) Statistics in biology (b) Bionemorology
(c) Biometry (d) Both A and B
- (viii) The characteristics or quantity that may vary from one individual to another is called-
(a) Static group (b) Variables
(c) Dynamic group (d) Dynamism
- (ix) Variable whose value can be expressed numerically are called-
(a) Quantitative variables (b) Qualitative variables
(c) Absolute variables (d) Continuous variables
- (x) Chi square test-
(a) Measure the degree of deviation experimental results from the expected results
(b) To test the closeness of observed and expected results
(c) To test the population variances and test variances
(d) All the above

- (xi) Find the mode of the following 11, 12, 13, 14-
 (a) 11 (b) 12
 (c) 13 (d) 1
- (xii) Which of the following is not measure of Central tendency-
 (a) Mean (b) Mode
 (c) Median (d) Range
- (xiii) Standard deviation is the square of-
 (a) Mean mode (b) Standard error
 (c) Variance (d) Regression
- (xiv) Correlation coefficient is a number between-
 (a) 1 and 2 (b) 0 and 1
 (c) 1 and 0 (d) -1 and +1
- (xv) CHI square is zero when-
 (a) Expected frequency is lesser than observed frequency
 (b) Expected frequency is equal to observed frequency
 (c) Expected frequency is double of the observed frequency
 (d) Expected frequency is greater than the observed frequency
- (xvi) A circle divided into sectors proportional to the frequency of item shown is called-
 (a) Bar chart (b) Pie chart
 (c) Histogram (d) Frequency polygon
- (xvii) A statistical test can be utilised to validate the statement peoples having high cholesterol suffer more from hypertension-
 (a) A student test (b) Dereglulation analysis
 (c) Pearson correlation coefficient (d) Annova
- (xviii) To determine variation in wings length of butterfly from five different places would be best statically test CSIR 2009-
 (a) F test (b) Student test
 (c) Regression analysis (d) Chi square test
- (xix) Height of student in a class is a-
 (a) Quantitative variables (b) Discrete variables
 (c) Absolute variables (d) Continuous variables
- (xx) Number of fruits in a tree is a-
 (a) Quantitative variables (b) Discrete variables
 (c) Absolute variables (d) Continuous variables

Q.2 Short answer type questions. (Any seven)

- (a) What do you mean by multiple regression, standard error of regression pharmaceutical examples probability?
- (b) Explain in detail of Probability, Binomial Distribution.
- (c) Define central composite design.
- (d) What do you mean by historical design?
- (e) Explain in detail optimization technique.
- (f) Explain curve fitting method of least square.
- (h) Explain in detail the definition of probability binomial distribution.

(i) Give in detail sampling error and large sample is small sample.

Q.3 long answers type questions. (Any two)

- (a) What do you mean by industrial and clinical trial approach and which software use in industry.
(b) Explain in detail factorial design and advantages of factorial design.
(c) Explain in detail of normal distribution, Poisson's distribution.

Enrollment No.....

Bachelor of Pharmacy
Eighth Semester Main Examination, Aug-Sep 2020
Social and Preventive Pharmacy [BP802T]

Time: 3:00 Hrs

Max Marks 75

Note : (i) All parts of the question paper are compulsory.

(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple choice questions-

[1x20 = 20 Marks]

- (i) Social problem means
(a) State of affairs (b) Moral approach to problem
(c) Personal problem (d) Family Problem
- (ii) Symptoms of acute Respiratory infection
(a) Common cold
(b) Sinusitis
(c) Ear Infections
(d) All of the above
- (iii) National health intervention programme for mother and child mission
(a) To protect for elder
(b) To protect for young
(c) None of the above
(d) To protect for mother and child
- (iv) Common symptoms of Cancer
(a) Lumps (b) Pimples
(c) Malignant tumor (d) None of the above
- (v)is a lung infection that is usually caused by a virus or bacteria.
(a) Diabetic (b) Pneumonia
(c) Cholera (d) Cancer
- (vi) Symptoms of cholera disease
(a) Diarrhea
(b) Nausea and vomiting
(c) Dehydration
(d) All of the above
- (vii) Drug used in treatment of Tuberculosis
(a) Isoniazid (b) Rifampin
(c) Pyrazinamide, Ethambutol (d) All of the above
- (viii) benefit of good hygiene is having better health

- (a) Wealth (b) Personnel hygiene
(c) Public health (d) None of the above
- (ix) Food poisoning, hepatitis A, influenza, common cold, roundworm, and threadworm common symptoms are
(a) Poor hygiene (b) Personnel hygiene
(c) Public health (d) None of the above
- (x) is an infectious disease that causes severe watery diarrhea:
(a) Cholera (b) Malaria
(c) Cancer (d) None of the above
- (xi) Universal immunization programme mission
(a) To protect immune system (b) To protect new born baby
(c) Young & children (d) None of the above
- (xii) The headquarters of W.H.O
(a) Geneva, Switzerland (b) Japan
(c) South Africa (d) West Indies
- (xiii)is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.
(a) Wealth (b) Health
(c) Money (d) Waste
- (xiv) Which year of Primary Health Centre to be revised -
(a) 2012 (b) 2011
(c) 2010 (d) 2005
- (xv) Example of improvement in rural sanitation
(a) Rooms (b) Services
(c) Toilets facilities (d) None of the above
- (xvi) is linked to transmission of diseases such as cholera, diarrhea.
(a) Poor Hygiene (b) Poor sanitation
(c) Both a&b (d) None of the above
- (xvii) How many Type of vitamins
(a) 10 (b) 13
(c) 11 (d) 5
- (xviii) Water soluble vitamins are:
(a) Vit.A&C (b) Vit.B&C
(c) None of the above (d) Vit.B
- (xix) Vitamin B7 complexes called as
(a) Niotin (b) Biotin
(c) Coitin (d) None of the above
- (xx) Non Profit NGO in India situated is -
(a) Armman (b) Nagpur
(c) Both A & B (d) None of the above

Part-B

Long answer questions.

[10x2 = 20 Marks]

Note : Attempt any two questions. Each question carries 10 marks.

- Q.1 What is the concept of health and disease. Describe in detail.
- Q.2 what do you mean by social and health education with respect to vitamin & nutritional deficiencies?
- Q.3 what are the different avoidable habits for the health & hygiene point of view?

Part-C

Short answer questions.

[5x7 = 35 Marks]

Note : Attempt any seven questions. Each question carries 5 marks.

- Q.1 Describe HIV control Program.
- Q.2 Give a note on national leprosy control program.
- Q.3 Give a short note on any one of given below-
- i) WHO
 - ii) IDSP
- Q.4 Give a principle of prevention and control of ebola virus.
- Q.5 Give a short note on any one of given below-
- i) Pneumonia
 - ii) Malaria
- Q.6 Describe national tobacco control program.
- Q.7 Discuss about integrated disease surveillance program.
- Q.8 What is the role of WHO in Indian national health Program?

Enrollment No.....

Bachelor of Pharmacy
Eighth Semester Main Examination, Aug-Sep 2020
Pharmaceutical Regulatory Science [BP804ET]

Time: 3:00 Hrs

Max Marks 75

Note : (i) All parts of the question paper are compulsory.

(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple choice questions-

[1x20 = 20 Marks]

- (xxi) How many people will be selected for phase I trial?
- (a) The whole market will be under surveillance
 - (b) 300-3000 people
 - (c) 20-300 people
 - (d) 20-50 people
- (xxii) What is meant by a blind subject?
- (a) The subjects do not know which study treatment they receive
 - (b) Patients injected with placebo and active doses

- (c) Fake treatment
 - (d) Signed document of the recruited patient for the clinical trial procedures
- (xxiii) What is informed consent in a clinical trial?
- (a) The subjects do not know which study treatment they receive
 - (b) Patients injected with placebo and active doses
 - (c) Fake treatment
 - (d) Signed document of the recruited patient for the clinical trial procedures
- (xxiv) Which one of the following is the last step of a clinical trial process?
- (a) Investigator selection
 - (b) Patient recruitment
 - (c) Statistical Analysis
 - (d) Data filed and registration
- (xxv) The first step of rational drug design is to _____.
- (a) Identify the target molecule
 - (b) Characterize the shape of the target molecule
 - (c) Design a drug for the target molecule
 - (d) Test the drug molecule
- (xxvi) The null hypothesis
- (a) Is the opposite of the research hypothesis.
 - (b) provides, when rejected, support for the research hypothesis.
 - (c) Is a tool in the reasoning process.
 - (d) All of the above.
- (xxvii) Document mandatory to enroll subject in clinical research study?
- (a) Protocol
 - (b) Case Report Form
 - (c) Informed Consent Form
 - (d) Investigators Brochure
- (xxviii) In how many phase clinical research study is conducted?
- (a) 5
 - (b) 4
 - (c) 8
 - (d) 1
- (xxix) To begin clinical research study it is mandatory to get approval from?
- (a) Sponsor
 - (b) Scientist
 - (c) Regulator
 - (d) Regulators and ethics committee both
- (xxx) Whose responsibility is to prepare essential documents like protocol/ investigators brochure/ informed consent form/ case report form in clinical trials?
- (a) Investigator
 - (b) Ethics committee
 - (c) Scientist
 - (d) Sponsor
- (xxxi) After complete absorption of drug it move into the various processes such as:
- (a) Distribution and protein binding
 - (b) Biotransformation of drug and excretion
 - (c) Both a and b
 - (d) None of these
- (xxxii) The main features of this transport system is:
- (a) Transport occurs along the concentration gradient.
 - (b) No energy expenditure is involved.

- (c) Transport is saturable, and competition occurs between isomers.
(d) All of these
- (xxxiii)** The intensity of pharmacological effect is normally a function of the:
(a) pH of the drug
(b) Solubility
(c) Concentration of drug achieved in the circulation
(d) None of above
- (xxxiv)** Movement of ions through the pores in cell membrane can be controlled by:
(a) Counter ion transport
(b) Expenditure of intracellular energy
(c) Both A&B
(d) None of these
- (xxxv)** The onset of drug action depends on the rate of:
(a) Drug absorption
(b) Drug dissociation
(c) Both A & B
(d) None of these
- (xxxvi)** Which of the following are not correct on the basis of clinical trials?
(a) Biomedical research studies
(b) Behavioral research studies
(c) Studies on human subjects
(d) Study based only on animals
- (xxxvii)** What do you mean by a randomized design?
(a) The subjects do not know which study treatment they receive
(b) Patients injected with placebo and active doses
(c) Randomly assigning subjects either for placebo or active dose
(d) Signed document of the recruited patient for the clinical trial procedures
- (xxxviii)** What is placebo?
(a) The subjects do not know which study treatment they receive
(b) Patients injected with placebo and active doses
(c) Fake treatment
(d) Signed document of the recruited patient for the clinical trial procedures
- (xxxix)** Which one of the following is the last step of a clinical trial process?
(a) Investigator selection
(b) Patient recruitment
(c) Statistical Analysis
(d) Data filed and registration
- (xl)** Which one of the following will be checked under phase IV surveillance?
(a) The whole market will be under surveillance
(b) 300-3000 people
(c) 20-300 people
(d) 20-50 people

Part-B

Short answer type question

[5x7 = 35 Marks]

Note : Attempt any Five questions, all question carry equal marks

- Q.1 Give the brief knowledge of regulatory requirement for approval of new drugs.
Q.2 Explain in brief concept of generic product development.
Q.3 Short note on common technical documentation.
- Q.4 Give detail note on DMF (Drug Master File).
Q.5 Give short note on INDA and ANDA.
Q.6 Explain in brief concept of generic product development.
Q.7 Explain in flow chart form drug approval process and timelines involved in the new drug application

Part-C

Long answer type question [10x2 = 20 Marks]

Note : Attempt any TWO questions, all question carry equal marks

- Q.1 Give various stages of drug discovery and development process.
Q.2 Define in detail pre-clinical and non-clinical studies.
Q.3 Give various stages of clinical trial and how much volunteers involved on each trial.

Enrollment No.....

Bachelor of Pharmacy
Eighth Semester Main Examination, Aug-Sep 2020
Advanced Instrumentation Techniques [BP811ET]

Time: 3:00 Hrs **Max Marks 75**

Note : (i) All parts of the question paper are compulsory.

(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple choice questions- [1x20 = 20 Marks]

- (xli) Which type of Quantum Transition takes place in Ultra Violet and Visible spectroscopy?
(a) Rotation of molecules (b) Nuclear
(c) Bonding electrons (d) Spin of nuclei in magnetic field
- (xlii) Electromagnetic radiation can travel through vacuum.
(a) True (b) Flase
- (xliii) Which of the following is the wavelength of microwave radiation?
(a) 10 – 780nm (b) 0.78 – 30µm
(c) 0.6 – 10 m (d) 0.75 – 3.75 mm
- (xliv) Which of the following detectors is used to detect light intensities which are very weak?
(a) Photomultiplier tube (b) Photovoltaic cell
(c) Photoemissive tubes (d) Photo reflector
- (xlv) How is Tungsten Halogen lamp differ from normal Tungsten filament lamp used in absorption spectroscopy?
(a) It has a tungsten filament and is filled with inert gas (b) Iodine is added to normal filling gas
(c) Iodine is coated on tungsten filament

- (d) Iodine is added to inert gas
- (**xlvi**) Instead of glass filters, why gelatin filters could not be used for a long period while both are Absorption filters?
 (a) Gelatin tends to evaporate and hence they deteriorate
 (b) Gelatin is affected by humidity in environment
 (c) They deteriorate due to absorption of heat leading to changes in gelatin
 (d) Gelation is affected by temperature in environment
- (**xlvii**) Which of the following could be used as the layer of dielectric in interference filters used in Absorption Spectroscopy?
 (a) Graphite (b) MgF₂
 (c) Fe (d) AgNO₃
- (**xlviii**) How can stability of radiation be achieved in incandescent or discharge source used in Absorption Spectroscopy?
 (a) Using filters (b) Using monochromators
 (c) Using slits (d) By controlling the source voltage
- (**xlix**) To tolerate high operating temperatures, which of the following has to be done in incandescent or tungsten filament lamps?
 (a) Alloys must be used
 (b) Nitrogen be used instead of inert gas
 (c) Envelope is fabricated with quartz
 (d) Envelope is fabricated with copper
- (**i**) Which of the following is not a source used in Mid Infrared Spectrophotometer?
 (a) Nernst glower (b) High pressure mercury arc lamp
 (c) Globar (d) Nichrome wire
- (**ii**) Which of the following is the wave number of near infrared spectrometer?
 (a) 4000 – 200 cm⁻¹ (b) 200 – 10 cm⁻¹
 (c) 12500 – 4000 cm⁻¹ (d) 50 – 1000 cm⁻¹
- (**iii**) What is the composition of Globar rod which is used as a source in Mid IR spectroscopy?
 (a) Silicon carbide (b) Silver chloride
 (c) Silicon dioxide (d) Silver carbide
- (**iiii**) Which of the following is not a technique for preparing solid samples in IR spectroscopy?
 (a) Solids run in solution (b) Mull technique
 (c) Solid films (d) Thin films
- (**liv**) Which of the following is not used as pyroelectric material used in pyroelectric transducers in Infrared spectroscopy?
 (a) Triglycine Sulphate
 (b) Deutrated Triglycine Sulphate
 (c) Some Polymers
 (d) Tetraglycine sulphate
- (**lv**) Which of the following is the principle of Golay cell which is used as a detector in IR spectroscopy?
 (a) Expansion of gas upon heating
 (b) Increase in resistance due to increase in temperature and vice versa
 (c) Temperature difference gives rise to a potential difference in the material
 (d) Decrease in resistance due to increase in temperature

- (Ivi) Which of the following is not a feature of carrier gas used in gas chromatography?
 (a) It must be chemically inert
 (b) It should be suitable for the detector employed
 (c) It should not be completely pure
 (d) It should be cheap
- (Ivii) Which of the following is the disadvantage of helium, which can be used as carrier gas in gas chromatography?
 (a) Dangerous to use (b) Expensive
 (c) Reduced sensitivity (d) High density
- (Iviii) Slow injection of large samples leads to band broadening and loss of resolution.
 (a) True (b) False
- (Iix) What must be done to the solid samples for it to be introduced into the column without using solid injection syringes in gas chromatography?
 (a) Introduced in hot-zone of the column
 (b) Dissolved in volatile liquids
 (c) Introduced using rotary sample valved
 (d) Introduced using sampling loops
- (Ixx) Which of the following is the advantage of straight packed column?
 (a) It can be packed uniformly (b) It can be repacked easily
 (c) It is compact (d) It is easier to heat it evenly

Part-B

Short answer type question

[5x7 = 35 Marks]

Note : Attempt any SEVEN questions, all question carry equal marks

- Q.1 What is the application of NMR spectroscopy?
 Q.2 What is the principle of mass spectroscopy?
 Q.3 Write short note on electron impact and chemical ionization.
 Q.4 How do you use X-Ray diffraction?
 Q.5 What do you mean by crystallography?
 Q.6 What is difference between qualification and validation?
 Q.7 What is ELISA and RIA?
 Q.8 What are the three main types of solid phase extraction methods?

Part-C

Long answer type question

[10x2 = 20 Marks]

Note: Attempt any two questions. All questions carry equal marks.

- Q.1 What are mass spectrometry and its instrumentation with their principle?
 Q.2 What is the principle of TGA describe instrumentation and their applications?
 Q.3 Give the principle and instrumentation of HPTLC.