

Chittagong Veterinary and Animal Sciences University
One Health Institute
Masters in Public Health (MPH)
January-June Semester Final Examination 2022
Course title: Extended Epidemiology and Research Methodology (Theory)
Code: ERM-601
Full marks: 40, Time: 2 hours

(Figures in the right margin indicate full marks. Answer any 4 questions from the following)

1. a. What do you mean by transmission of diseases in Public Health? Draw the Epidemiological Triad of Covid 19. 5
b. What are the factors that alter the Herd Immunity? What is the difference between Eradication and Elimination? 5
2. a. Which steps of research is required throughout the research period? What is its importance? Write the importance of hypothesis in research. 5
b. What do you understand by 'Manipulation', 'Randomization' and 'Control', in a classical experimental study. Outline the design of RCT. 5
3. a. What are the Hill's criteria for causal inference? Explain temporality and consistency. 5
b. Write down the difference between Case Control and Retrospective Cohort study in tabulated form. Mention the steps of conducting a cross sectional study. 5
4. a. Write Short note on: (any 2) i) Index case; ii) Bias iii); Case series 2.5X2
b. Classify Epidemiological study. Explain Simple random sampling. 5
5. a. Write the difference: (any 2) 2.5X2
 i) Diagnosis vs Screening
 ii) Questionnaire vs checklist
 iii) Quarantine and Isolation
b. Define Ethics. What are the elements of consent? What is the basic difference between consent and assent? 5

One Health Institute
Chattogram Veterinary and Animal Sciences University
Masters In Public Health (MPH)
January-June Semester Final Examination 2022
Subject: Food Safety and Risk Assessment
Course Code: FRA-601

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answers are discouraged.]

1. a) Mention the precautions needs to be taken during handling and storing of meat. Discuss about the cooking temperature to ensure food safety related to meat. 03+03
b) What is food poisoning? Write down its reason and symptoms. 04
2. a) How will you carry out cleaning procedure within food preparation area? Discuss ways to prevent pest infestation in food industry. 05
b) What kind of clothing should be worn during food preparation? List down other responsibilities during food preparation. 05
3. a) What is risk analysis? Briefly discuss about risk assessment as first step of risk analysis. 07
b) What is adverse health effect? Define different risk level. . 03
4. a) Define the following term: 05
Hazard, Control Point, Critical Control Point, Deviation, Corrective Action
b) Draw the flow diagram of CCP recognition at different stages of food production 05
5. Write a short note on the following: 3+3+4
 - i. Five keys to safe food
 - ii. Risk Management
 - iii. Good Hygienic Practices

Chattogram Veterinary and Animal Sciences University
One Health Institute
MS in Public Health
January-June Final examination 2022
Subject: Outbreak Investigation and Surveillance (Theory)
Code: OIS-601
Total marks: 40; Time: 2 hours

(Answer any 4 from the following questions. Figures in the right margin indicates full marks)

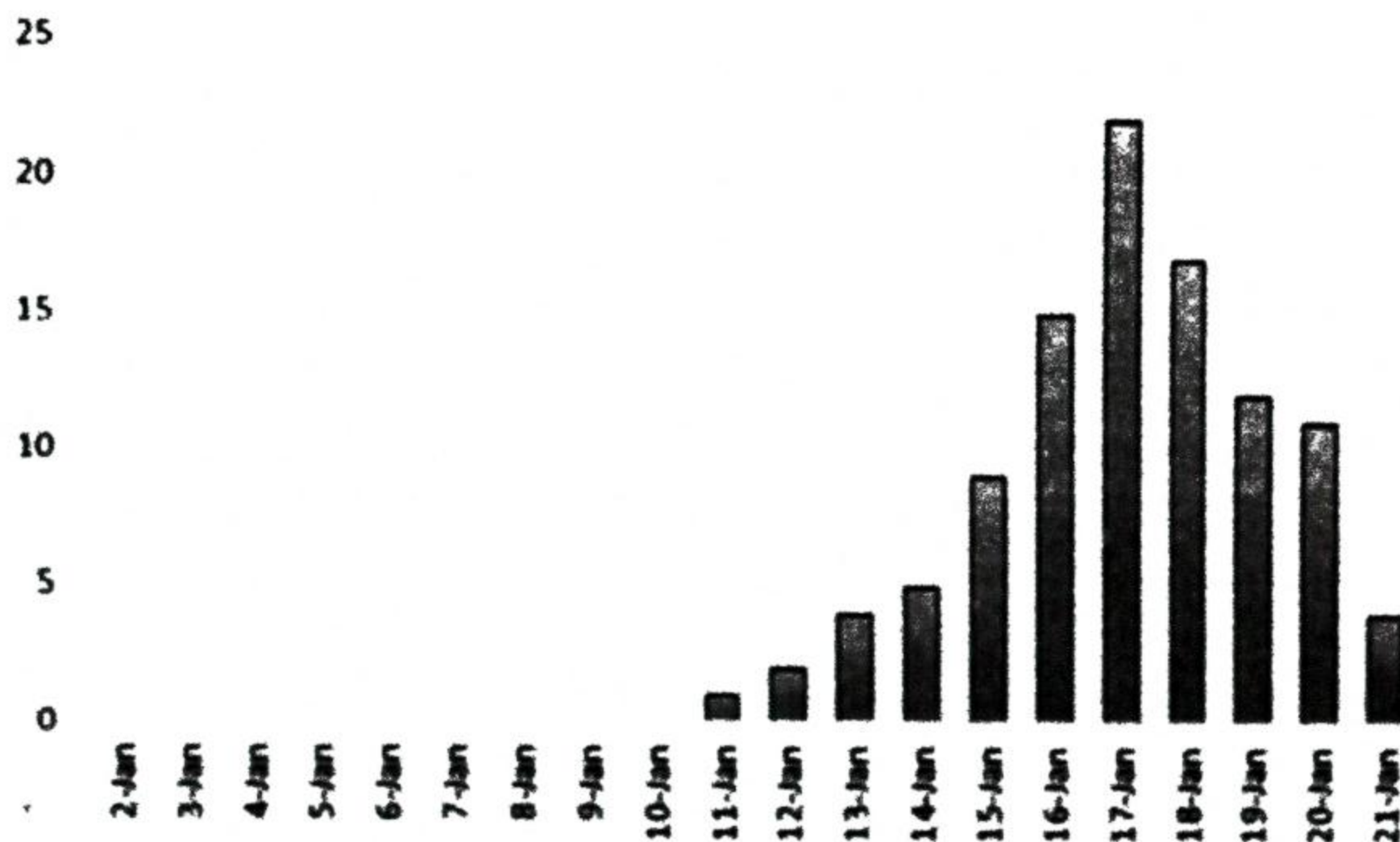
1. a. Describe the concept and purposes of disease surveillance in health sector. 5
b. How would you differentiate survey and census from surveillance? 3
c. Enlist the common sources of denominator and numerator data in disease surveillance in Bangladesh. 2

2. a. Mention the major steps in a typical surveillance system. 2
b. What are the components of a good questionnaire? 3
c. What are the major drawbacks of passive surveillance? 3
d. Differentiate sentinel and risk-based surveillance. 2

3. a. Which surveillance system is dominating in Bangladesh? Sketch its information flow. 4
b. Discuss the limitations of a developing country that may hinder a surveillance system. 6

4. a. Define outbreak. What are the purposes of outbreak investigation? 3
b. Mention the steps in a typical outbreak investigation. Briefly describe first 2 steps of outbreak investigation of a disease with zoonotic importance. 5
c. What are the ways to test a hypothesis in an outbreak investigation? 2

5. a. What do you understand by epidemic curve? Describe the importance of creating an epi curve in an outbreak? 5
b. An epi curve was constructed based on data of COVID-19 cases in Chattogram metro. The maximum and minimum incubation period of COVID-19 was estimated as 3 to 15 days and average incubation period was 9 days. Calculate the probable day of exposure from the constructed curve. 5



Chittagong Veterinary and Animal Sciences University

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Masters in Public Health (MPH)

January-June Semester Final Examination 2022

Course title: Zoonoses and EIDs (Theory)

Code: ZED-601

Full marks: 40, Time: 2 hours

(Figures in the right margin indicate full marks, Answer any **four** questions)

1. a. What is Zoonoses? What is the importance of it and mention their mode of transmission zoonotic diseases? 4
- b. Mention six common Zoonotic diseases in Bangladesh with their causative organisms. 3
- c. Mention the names of Mosquito borne diseases. 3
2. a. What is Anthrax? Mention epidemiology of Anthrax in Bangladesh. 4
- b. What are the clinical types of Anthrax? How transmission occur. 3
- c. How will you take preventive measures for Anthrax? 3
3. a. What is Echinococcosis? Mention the different forms of echinococcal infection in human and common sites of hydatid cyst in the human body. 3
- b. What are types of human brucellosis and mention their animal reservoir. 3
- c. What are the preventive measures will you suggest for leptospirosis? 4
4. a. What is Dengue and DHF? Mention basic difference in between them. Name the virus and mention its serotypes. 3
- b. what are the factors responsible for epidemic in Bangladesh. 4
- c. What are the preventive measures will you suggest? 3
5. a. What is Rabies? Mention the epidemiological factors responsible for rabies. 3
- b. Mention the names of prion diseases in human and animals. 4
- c. Mention the modes of transmission of Ebola virus infection. 3

Chittagong Veterinary and Animal Sciences University
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Masters in Public Health (MPH)
January-June Semester Final Examination 2022
Course title: Biostatistics (Theory)
Code: BIO-601
Full marks: 40, Time: 2 hours

(Figures in the right margin indicate full marks. Answer all questions from the following)

1. a. The weight of 10 people are- 55, 58, 48, 50, 52, 60, 65, 70, 55 & 75 Kgs. Now calculate various measures of central tendency. 5
c. What do you understand by sampling error? Which parameter in statistics indicate sampling error? 3
2. a. What do you understand by null and alternative hypothesis? 2
b. Mention the test of significance you would choose to test the associations between following variables: 2
i. COVID-19 status with vaccination status ii. Mean body weight with hypertension presence or absent iii. Mean income with malnutrition iv. Smoking with lung cancer.
c. Draw and enumerate the properties and uses of normal curve. 4
3. a. What is the justification of taking sample from a population? 2
b. Classify sampling strategies. 2
c. Mention the steps in systematic random sampling. 4
4. a. Differentiate among data, information and variable with example. 3
b. Classify the following variables: 3
Height, gender, weight, position in class, exam marks, color of eyes, body mass index, family size, number of children, diastolic pressure, educational status
c. Mention which types of variables can be represented by the following graphs: 2
histogram, pie chart, scatter plot
5. Write short notes on (any 2): 4X2
 - i. Type I and Type II error
 - ii. Standard deviation
 - iii. Confidence Interval

Chittagong Veterinary and Animal Sciences University

One Health Institute

Masters in Public Health (MPH)

January-June Semester Final Examination 2022

Course title: Fundamentals of Public Health

Code: FPH-601

Full marks: 40, Time: 2 hours

**[Please answer any 07 Questions including Question No. 08
Question no. 1-7 equally carries 05 marks & Question no.08 carries 10 marks]**

1. a. Define public health with an example of its application.
b. What are the missions of public health?
2. a. What are the key roles of public health in health emergency? Give 2 examples.
b. How public health approach contributed towards the battle against COVID-19?
3. a. What are the support policies that may help in creating healthier community?
b. Sketch the outline for health equity.
4. a. What are the determinants of health? Provide examples for social determinants of health.
b. What are the new philosophies of health?
5. a. Mention the types and levels of healthcare services of Bangladesh.
b. Give 2 examples of successful Public-Private Partnership programs in Health sector of Bangladesh.
6. a. "Health is neither created nor maintained solely within the health sector"- Justify the statement based on the experience of dealing with FDMNs.
b. As a public health expert how do you like to address the issue of "COVID-19 Vaccine refusal"?
What are the strengths and weaknesses of the public health system of Bangladesh?
7. a. "Preventive measures are more cost effective than the curative measures"- Justify the statement mentioning the differences between individual and public health.
b. How inequity adversely affects the health status of the people?
8. Write short notes: (Any 04)
 - a. Health Indicators.
 - b. Core Functions of public health
 - c. Partners in public health.
 - d. Health impact pyramid.
 - e. Stigma in Healthcare.
 - f. Role of media in public health

Chattogram Veterinary and Animal Sciences University
One Health Institute
MS in Public Health
January-June Final Examination 2022
Subject: Outbreak Investigation and Surveillance (Practical)
Code: OIS-601
Total marks: 20; Time: 1 hour

(Answer the following questions. Figures in the right margin indicates full marks)

1. a. What are the components of a good questionnaire? 3
b. Construct a sample questionnaire for a targeted survey to estimate the prevalence and risk factors of COVID-19 among the garment workers in Chattogram metropolitan area. 7

2. a. A test was used to screen human for tuberculosis (TB). The sensitivity of the test is 95% and the specificity of the test is 90%. Assume that the total number of humans were being tested for TB is 50,000. Assume that the true prevalence of TB in the population is 100 per 50,000. Answer the following using the above information:
 - i. Construct a 2X2 table with appropriate numbers. 3
 - ii. Calculate the PPV and NPV of the test and interpret the results. 4
 - iii. How would you interpret 95% sensitivity and 90% specificity of the test? 3

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Course title: Biostatistics (Practical)
Code: BIO-601
Full marks: 20, Time: 1 hour

(Figures in the right margin indicate full marks. Answer all questions from the following)

1. A survey conducted with the aim to estimate the prevalence of COVID-19 among health care workers (HCWs) working in various hospitals of Chattogram metropolitan area. The data set contains data from 100 HCWs. Use the data set in STATA to conduct appropriate test of significance to fill out the following table:

20

Variables	Category	Total observation	Positive to COVID-19	P value
Hospital	CMC			
	Medical center			
	Imperial hospital			
	General hospital			
Donor type	Doctor			
	Nurse			
	Hospital staff			
Gender	Male			
	Female			
Vaccine status	Yes			
	No			

Did you find any association between the exposure variables and outcome?

3. a) Define Risk.

b) In a cohort study 300 diseases free people were followed for 1 year. Among them 200 were exposed to fumes and rest were not exposed to fumes. During the study period 20 in the exposed group and 10 in the non exposed group developed Bronchitis. Calculate the Relative risk of Bronchitis among this group.

4. a) Define Odds Ratio.

b) A study looking at breast cancer in women compared cases with non- cases, and found that 25/100 cases did not use calcium supplements compared with 75/100 of the non-cases.

1) Develop a table to display the data.

2) Calculate the odds of exposure in cases and non-cases.

3) Calculate the odds ratio using the cross-product ratio.

5. A study looked for an association between severe maternal anemia in the later stage of pregnancy and low birth weight in their babies. All low birth weight (LBW) babies born in one maternity clinic were identified over one year. A representative group of babies without LBW was also selected over the year. For all these babies the clinical records were used to get the hemoglobin levels of the mother during pregnancy.

a. Which study design they followed?

b. Identify the outcome and exposure variable.

c. Which measures of frequency and measures of effect can be calculated from this design?
