

Chattogram Veterinary and Animal Sciences University

Department of Medicine and Surgery

**MS in Epidemiology January-June Semester Final Examination, 2021**

**Course Title and Code: Research Methodology (REM: 2+0) (Theory)**

**Total marks: 40; Time: 2 hours**

**[Answer all questions and right margin indicates full marks]**

**Question 1:**

**Q1.1:** Distinguish descriptive studies from analytical studies. **(Points 2)**

**Q1.2:** Describe research hypothesis. **(Points 2)**

**Q1.3:** Give two examples of prospective epidemiological studies, briefly design one of the designs and write down the merits and demerits between them. **(Points 10)**

**Question 2:**

**Q2.1:** Write the assumptions to calculate sample size according to nature of epidemiological study. **(Points 5)**

**Q2.2:** When will you apply multi-stage and cluster sampling techniques? Distinguish between purposive and convenience sampling. **(Points 4)**

**Q2.3:** How selection and information biases in different epidemiological studies are introduced and they are dealt with? **(Points 4)**

**Question 3:**

**Q3.1:** Outline a questionnaire to be used for a cross-sectional study to estimate farm level prevalence of Lumpy Skin Disease and associated risk factors. **(Points 8)**

**Q3.2:** What would be your specific plan for the questionnaire validation? **(Points 2)**

**Q3.3:** Assess and interpret the outputs in the table below. **(Points 3)**

Example	Crude risk ratio	Risk ratio (Stratum1)	Risk ratio (Stratum 2)	Adjusted risk ratio	Interpret the results
Ex-1	3.7	3.9	4.0	3.6	
Ex-2	3.0	2.0	2.0	2.0	
Ex-3	2.8	1.8	5.5	-	



**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**MS January-June Semester Final Examination 2021**  
**MS in Pathology**  
**Course title: Reproductive Pathology**  
**Course code: RPT-601**  
**Full marks: 40, Time: 2 hours**

(Figures in the right margin indicate full marks. Answer **any 5 questions** from the following)

1. a. Define intersex. 1  
b. Write down the mechanism of formation of a sterile female in freemartinism. 4  
c. What do you mean by true hermaphrodite? 3
2. a. How pathogenesis of pyometra differs between cow and bitch? 4  
b. Describe follicular and luteal cysts in ovary. 4
3. a. How endometrial hyperplasia develops in cows? 4  
b. Write down the pathology of endometrial hyperplasia. 3  
c. What is mummification of fetus? 1
4. a. Describe 4 developmental anomalies of penis and prepuce. 4  
b. Define the following terms: spermatic granuloma, oligospermic, spermatocele, ulcerative posthitis. 4
5. a. Briefly describe the pathogenesis of brucellosis in pregnant cows. 5  
b. Write a short note on retention of placenta. 3
6. Write down the pathogenesis and pathology of trichomonal abortion. 8



**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**MS in Surgery, Semester: January-June, 2021**  
**Subject: Orthopaedic Surgery**  
**Course Code: ORS 601; Credit: 2**  
**Total Marks: 40, Time: 2 (Two) Hours**

(Figures in the right margin indicate full marks. Answer any **FOUR** questions)

1. A cat fell down from 4<sup>th</sup> floor one day ago. What is your approach for the orthopaedic examination in cat? 10.0
2. Mention the IMP and plating related instruments with their functions. Describe the intramedullary pinning technique for femur fracture in a dog. 10,0
3. Describe the fracture healing process and different bone grafting with their indications. 10
4. Write down the incidence, clinical findings and different correction techniques of patellar luxation in dogs. 10.0
5. Enumerate the fracture reduction and immobilization techniques for long bone fracture management in animals. Write down in detail the Robert Jone's bandage technique for tibial fracture management in dog. 10.0
6. How will you diagnose the hip dislocation in dog? Describe the different surgical techniques for the correction of hip dislocation in dog and cat. 10.0



Chittagong Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Surgery, Semester: July- December, 2021  
Subject: Ophthalmic Surgery  
Course Code: OPS 602; Credit: 2  
Total Marks: 40  
Time: 2 (Two) Hours

(Figures in the right margin indicate full marks. Answer any **FOUR** questions)

1. Describe the ophthalmic examination and different diagnostic procedure in small animals. 10.0
2. Write down the clinical anatomy of orbit and globe with important clinical signs and differential diagnosis of orbital diseases. Mention the common orbital surgical procedures in different animals and describe in detail most common one. 10.0
3. Mention important anatomy and physiology of eyelid in animals including common surgical conditions. How will you surgically correct the following the condition?- Ectropion , Entropion and Cherry eye. 10.0
4. Mention the lacrimal apparatus and their importance. Describe the indications and procedure of nasolacrimal cannulation/ catheterization in dog. What is dacryocystorhinography? 10.0
5. Mention the common congenital and acquired conditions of canine lens with its anatomy. Describe the etiology and surgical treatment of cataract. 10.0
6. Write short note on followings- physiological control of intraocular pressure, Horner's syndrome, Nerve involvement in ophthalmology and their functions, indications and procedure of traskorrhaphy. 10.0



**M.S. in Surgery; January-June Semester-2021**  
**Subject: Zoo, Wild and Lab Animal Anaesthesiology (Theory)**  
**Course code: ZWL 601**

**Total Marks: 40**

**Time: 2 (two) hours**

**Department of Medicine and Surgery**  
**Faculty of Veterinary Medicine**  
**Chittagong Veterinary and Animal Sciences University**

*(Figures in the right margin indicate full marks. Answer any FOUR questions)*

1. (a) Mention five modern gaseous anaesthetic those are suitable for tiger anaesthesia. 03  
(b) Write down the mechanism of action for inhalant anaesthetic. 04  
(c) Explain how MAC value indicates the potency of a gaseous anesthetic? 03
2. (a) What should you monitor during anesthesia? How do you monitor depth of Anesthesia? 04  
(b) What is the importance of ECG during gaseous anesthesia in wild animals? 03  
(c) What are the relation and impact of hypothermia during wild life capture? 03
3. (a) How will you diagnose dehydration in zoo animals? 02  
(b) What are the common routes for fluid administration in zoo, wild and lab animals? 03  
(b) Mention the different types of fluids that are useful for zoo and wild animals? 05
4. (a) Mention about the precapture considerations for wild and laboratory animals? 04  
(b) Mention the types of dart used in zoo. 02  
(c) Write down the mechanism of drug delivery in blow darts? 04
5. (a) What are the equipment and methods used for restraining the venomous snake? 04  
(b) Write about the venipuncture and intravenous catheterization for turtles? 03  
(c) Write down the treatment of capture myopathy in wild animals. 03
6. Write short notes on *any two* of the followings- 2x5=10
  - (a) Inhalation anaesthesia in rodents
  - (b) Premedicative agents for elephant
  - (c) Endotracheal intubation in ruminants
  - (d) Guidelines for capture of displaced Sumatran Rhinoceroses



**Chattogram Veterinary and Animal Sciences University**  
**MS in Surgery January-June Semester Final Examination 2021**

**Subject: Large Animal Anaesthesiology**

**Course code: LAA 601**

**Total Marks: 40**

**Total time: 2 hours**

(Please answer any four from the following questions. Figures in the right margin indicate full marks)

Q 1. 5x2 = 10

- a) Write down the name and doses of five analgesic agents in cattle and horse.
- b) What are the complications associated with general anaesthesia in cattle and how will you overcome those?

Q 2. 5x2 = 10

- a) Calculate maximum volume of 2% lidocaine that could be given to a 30 kg goat.
- b) Write down the injectable general anaesthetic protocol for an adult horse.

Q 3. 5x2 = 10

- a) Write down the protocol of distal paravertebral nerve block in a cow.
- b) Write down the protocol of low epidural anaesthesia in a calf.

Q 4. 5x2 = 10

- a) Write down the anaesthetic technique for horn fracture management in a 4-year adult cattle.
- b) Write down the protocol for injectable general anaesthesia in cattle.

Q 5. 5x2 = 10

- a) What is double drip? How will you prepare double drip for general anaesthesia in cattle?
- b) Write down the technique of retrobulbar nerve block for eyeball enucleation in a horse.

Q 6. Write short note of any two 5 x2 = 10

- a) Muscle relaxant b) Peterson's nerve block c) Intravenous regional analgesia.



Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Theriogenology Final Examination, 2021  
January-June Semester, 2021  
**Subject: Advances in Andrology and Male Infertility**  
Course Code: AMI-601, Janu-June, 2021  
Total Marks: 40, Time: 2 hours

Figures in the right margin indicate full marks. Answer any four of the following questions

1. Summarize the sexual behavior of a male. How do you collect semen from a buck? 10
2. What are the causes behind male infertility in Bangladesh? How do you minimize the causes behind infertility? 10
3. What are the causes behind loss of semen quality? How do you improve the semen quality? 10
4. Name the semen born diseases. Describe the procedure for detection of semen borne diseases? 10
5. Write down the procedure of breeding soundness evaluation in a bull for breeding purpose. 10
6. Write short notes on any two of the following 5×2
  - a. Management of breeding bull
  - b. AI record keeping
  - c. Semen preservation



**M.S. in Surgery; January-June Semester-2021**

**Subject: Large Animal Surgery (Theory)**

**Course code: LAS 601**

**Total Marks: 40**

**Time: 2 (two) hours**

**Department of Medicine and Surgery**

**Faculty of Veterinary Medicine**

**Chittagong Veterinary and Animal Sciences University**

*(Figures in the right margin indicate full marks. Answer any FOUR questions)*

1. (a) What are the stages of wound healing? How do you treat an open wound on an animal? 03
- (b) Mention the principles of wound management and healing in animals 03
- (c) Write the diagnosis and treatment of a cow suffering from left sided abomasal displacement in a cow. 04
2. (a) What antiseptics are commonly used in surgery? Write down the most recommended antiseptic for surgical operations? 03
- (b) How will you prepare the surgical site for an abdominal surgery in large animals? 04
- (c) Mention the postoperative management of C-section in large animal surgery. 03
3. (a) How will you perform dehorning in a Holsten Friesian cow? 03
- (b) Write down the etiology, clinical signs, diagnosis and treatment for umbilical hernia in a male calf. 05
- (c) What are the merits and demerits of midline incision for laparotomy in animals? 02
4. (a) What is large animal surgery? What is the difference between a small animal vet and a large animal vet? 03
- (b) How will you repair a chronic rectal prolapse in calves? 04
- (c) Write down the use of episiotomy for easy parturition of cow in the field. 03
5. (a) What is Theloscopy? What are the common surgical affections of teat in cow? 03
- (b) What are the causes, treatment and management of udder edema in a cow? 04
- (c) How will you perform castration in Bulls? 03
6. Write short notes on *any two* of the followings- 2x5=10
  - (a) Correction of dermoid cyst in a cow
  - (b) Laparoscopic cryptorchidectomy
  - (c) Trimming of claws in goat
  - (d) Use of Thomas splint in large animals



Chittagong Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
**MS in Theriogenology Final Examination, 2021**  
January-June Semester, 2021  
**Sub: Advances in Obstetrics**  
Course Code: AOB-601, Janu-June, 2021  
Total Marks: 40, Time: 2hrs

Answer any 5 of the following questions

1. What is fertilization? How does conceptus develop in animals? Describe briefly 8
2. Explain the stages of parturition in ruminant. How induce parturition in a cow? 8
3. Write short notes on obstetrical anesthesia in ruminants. Describe the procedure of treatment of vaginal prolapse in cow. 8
4. Treat the case of dystocia of a registered goat in SAQTVH, CVASU. 8
5. Summarize the hormonal relationship during pregnancy in animals. Why does the dam become immunologically weak in pregnancy? Describe briefly 8
6. What are the causes of teratogen? Name ~~the~~ some teratology and developmental anomalies in animals. How will you prevent the teratology? 8
7. Describe the procedure of involution of uterus in goat. 8



Chattogram Veterinary and Animal Sciences University  
Faculty of Veterinary Medicine  
Department of Medicine and Surgery  
MS in Theriogenology Final Examination, 2021  
Semester: January–June  
Subject: **Reproductive Hormones**  
Course code: RDH-601

Figures in the right margin indicate full marks. Answer any **five** questions.

Total Marks: 40

Time: 2 hours

- |    |  |     |
|----|--|-----|
| 1. | a. Describe origin and function of neuro-hormones regulating reproduction.       | 04  |
|    | b. Classify reproductive hormones according to chemical structure.               | 04  |
| 2. | a. Explain the changing concepts in regulation of mammalian reproduction.        | 04  |
|    | b. What type of cell signalling does the endocrine system use? Explain.          | 04  |
| 3. | a. Discuss mechanism of action of endocrine hormones.                            | 04  |
|    | b. How hormone secretion regulates in animal body?                               | 04  |
| 4. | a. Define and classify growth factors.   | 04  |
|    | b. Write down the name, mode of action and function of five growth factors.      | 04  |
| 5. | a. How can you measure hormonal imbalance under field and laboratory conditions? | 04  |
|    | b. Write down the principles of hormone therapy.                                 | 04  |
| 6. | Write short notes (any two) on:  | 4×2 |
|    | a. Clinical uses of hormones   |     |
|    | b. Placental hormones  |     |
|    | c. Commercially available hormones in Bangladesh                                 |     |





**Chattogram Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**MS in Medicine**  
**Semester: January – June' 2021**  
**Subject: Production Diseases of Dairy Animals**  
**Course Code: PDD 601, Credit: 02**  
**Total Marks: 40**  
**Time: 02 (Two) Hours**

*(Figures in the right margin indicate full marks. Answer any FOUR questions)*

1. (a) Define Production Diseases in Dairy Animals. **01**  
(b) Mention 06 (Six) Production Diseases of Dairy Animals. **01**  
(c) Write down the etiology, risk factors, clinical signs, diagnosis, treatment and control of Sub – clinical mastitis in does. **08**
  
2. (a) Define gestation. **01**  
(b) Mention the common causes of termination of gestation in dairy cattle of Bangladesh perspectives. **03**  
(c) Write in details the mode of action reproductive hormones in dairy cows. **06**
  
3. Describe the synonyms, etiology, clinical signs, diagnosis, treatment, prevention and control of Pregnancy toxemia in ewes. **10**
  
4. Write down the etiology, clinical signs, diagnosis, treatment, prevention and control of Lactation Tetany in mares. **10**
  
5. Describe the etiology, risk factors, clinical signs, diagnosis, treatment, prevention and control of Milk fever in cows. **10**
  
6. Write down the etiology, risk factors, clinical signs, diagnosis, treatment, prevention and control of Transport tetany in ewes of Bangladesh perspectives. **10**

**– GOOD LUCK –**



**Chattogram Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**MS in Medicine Final Examination, 2021**  
**Semester: January–June**  
**Subject: Veterinary Dermatology**  
**Course code: VED–601**

Figures in the right margin indicate full marks. Answer any **five** questions.

Total Marks: 40

Time: 2 hours

1. a. Discuss the essential and optional equipment for dermatological tests. 04  
b. Write common strains used on cytology samples and histopathology sections. 04
2. a. Describe the various cytological sampling techniques. 04  
b. Design algorithm for cutaneous cytology. 04
3. a. Explain hair plucks and trichograms. 04  
b. Sketch skin biopsy technique in animal for dermatological examination. 04
4. a. Write down the epidemiology and prevention of lumpy skin disease. 04  
b. How you can develop a vaccine to combat papillomatosis? 04
5. a. Write down the clinical findings, diagnosis and treatment of flea allergy dermatitis in dog and cat. 04  
b. How to manage a case of canine Malassezia dermatitis? 04
6. Write short notes (any two) on: 4×2
  - a. Canine atopic dermatitis
  - b. Alopecia
  - c. Nutritional skin diseases



**Chittagong veterinary and Animal Sciences University**  
**Department of Medicine and Surgery, Faculty of Veterinary Medicine**  
**MS in Medicine, January-June Semester-2021**  
**Subject: Zoonotic Medicine (ZOM-601), Total marks: 40, Time-2 hours**

*(Figure in the right margin indicates full marks. Answer any **FOUR** questions)*

- Q1 a. Define zoonoses. Briefly describe the role of veterinarians in zoonotic control. 5  
b. Describe the Mode of transmission and important clinical signs of Zika and Ebola in human and animal? 5
- Q2 a. Which salmonella serovars have zoonotic potential? How they transmit? What they do both in human and animal? 5  
b. Name the most common fungal zoonoses. What is its common name and causal agent? Briefly describe the diagnostic and treatment procedures of it. 5
- Q3 a. How Brucella spread? How will you control Brucellosis induced abortion storm in a dairy farm? 5  
b. Write down the zoonotic significance of following diseases. 5  
i. Cryptosporidiosis ii. Toxoplasmosis iii. FMD and iv. leptospirosis
- Q4 a. List the important protozoal and fungal zoonoses with their causal agents. 5  
b. What is MDR TB? Briefly discuss the biochemical and serological tests for the diagnosis of TB cattle. 5
- Q5 b. What sequential steps you would like to follow in controlling rabies in animals and humans? 5  
a. Briefly describe the etiology, diagnosis and treatment procedures of Q fever in animal. 5

**“GOOD LUCK”**



**Chittagong veterinary and Animal Sciences University**  
**Department of Medicine and Surgery, Faculty of Veterinary Medicine**  
**MS in Medicine, January-June Semester-2021**  
**Subject: Food Animal medicine (FAM-601), Total marks: 40, Time-2 hours**

*(Figure in the right margin indicates full marks. Answer any **FOUR** questions)*

- Q1 a. Define and classify bovine mastitis. How do you differentiate contagious from environmental mastitis? 5
- b. List the important protozoal diseases of farm animal. Mention the general prevention procedures of them. 5
- Q2 a. Briefly describe the causal agent, transmission procedures, and diagnosis and treatment protocols of anthrax in cattle. 5
- b. Write down the prognosis and post infection complications of following diseases. 5
- i. FMD ii. Fasciolosis iii. Mastitis iv. Neval ill and v. Epimeral fever
- Q3 a. Write down the etiology, epidmiology, diagnosis and line of treatment of brucellosis in cattle. 5
- b. Write down the important clinicopathological findings which most likely point the diagnosis of following diseases. 5
- i) Tetanus ii) paratuberculosis iii), iv) Anaplasmosis, v) Ascariasis
- Q4 a. List the vector borne diseases in ruminant. Briefly describe the clinical findings, diagnosis and treatment of babesiosis in cattle. 5
- b. What is black disease in sheep? What is the role of liver fluke in black disease? Write a prescription of goat plague. 5
- Q5 a. What are the common causes of lameness in cattle? Enumerate the etiology, clinical signs, diagnosis and treatment of foot rot in cattle. 5
- b. Name the vaccines with their schedules, doses, routes and duration of interval practiced in cattle of Bangladesh. 5

**Good Luck**



**Chattogram Veterinary and Animal Sciences University**  
**Faculty of Veterinary Medicine**  
**Department of Medicine and Surgery**  
**MS in Medicine**  
**Semester: January-June 2021**  
**Subject- Avian Medicine**  
**Course code: AVM-601**  
**Total marks – 40**  
**Time – 2 (Two) hours**

(Figures in the right margin indicate full marks. Answer any **FOUR** questions)

1. (a) Differentiate between Infectious bronchitis and Infectious laryngotracheitis. 04  
(b) Write down the vaccination schedule of commercial layer & broiler. 06
2. (a) Write down the postmortem lesions, treatment and prevention of Duck plague. 06  
(b) Describe briefly: i. Derzsy's disease and ii. Bacillary white diarrhea. 04
3. (a) Differentiate between Marek's disease and Lymphoid leukosis. 04  
(b) Write down the postmortem lesions of Infectious bursal disease, brooder pneumonia and fowl typhoid. 06
4. (a) Write down the etiology, clinical signs and postmortem lesions of Avian Influenza in chickens. 07  
(b) Write short note on bumble foot disease. 03
5. (a) Write down the clinical signs of EDS76, Anatipestifer infection and Newcastle disease. 06  
(b) Explain the role of concentrates, fish meal and coccidiosis in causing necrotic enteritis. 04
6. Describe in details the vaccination of Newcastle disease and pox in chickens. 10



Chittagong Veterinary and Animal Sciences University  
Department of Medicine and Surgery  
**MS in Epidemiology January-June Semester Final Examination, 2021**  
**Course Title and Code: Principles of Epidemiology (PRE: 2+0)**  
**Total marks: 40; Time: 2 hours**

**[Answers all questions and right margin indicates full marks]**

**Scenario-1:** The dairy sector is one of the emerging sectors in livestock, Bangladesh. However dairy herd faces various infectious and non-infectious diseases (e.g., metabolic diseases, nutritional deficiency diseases, reproductive disease) due to poor farm hygiene and feeding system. Therefore, the local DLS desires to estimate the burden of farm level metabolic disease and associated risk factors in dairying in Chattogram Metropolitan area.

**Question 1:**

**Based on the above background information answer the following questions:**

**Q1.1:** Identify and define the outcome variable **(Points 2.0)**

**Q1.2:** Enlist the exposure variables. Compare among risk factor, protective factor and determinant **(Points 4.0)**

**Q1.3:** Write down the appropriate measures of disease frequency? What are the pre-conditions to be met to calculate your chosen measure of the disease frequency? Use example figures to calculate the measure along with its interpretation. **(Points 4.0)**

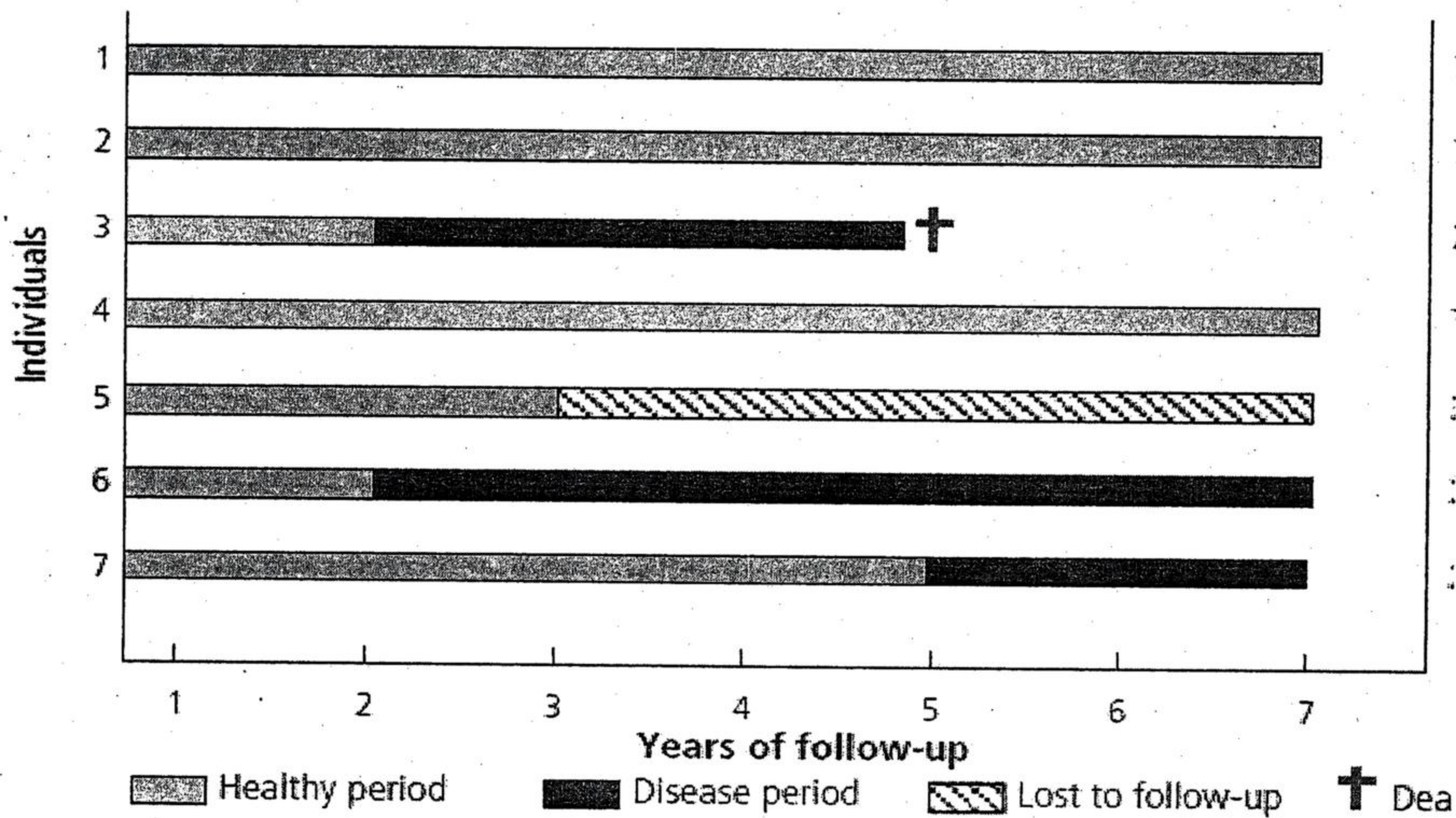
**Q1.4:** Construct an example  $2 \times 2$  table, calculate and interpret the appropriate measure effect. And write down the difference between your chosen measure of effect and others. **(Points 4.0)**

**Question 2:**

**Q2.1:** A population of 500 cattle heads was followed for a period of 2 years. Initially 50 had the disease X. Additional 40 cases were recorded over the follow up period. Calculate and interpret appropriate measures of disease frequency at the start, during the follow-up period and over the whole period. **(Points 6.0)**



**Q2.2** A seven-year cohort study was carried out to assess the status of tuberculosis in cattle of 24 farms (N=600 cattle) in Chittagong in 2018. Of the total 60% animals are adult. Animals were also newly added to these farms during the first year of the study. Some animals were also died due to number of reasons such as mastitis. Some example results of the study are given as follows. Describe the nature of the population. *Write pre-requisites the appropriate measure of bovine tuberculosis in the population? Calculate and interpret the results. (Points 7.0)*



**Question 3:**

**Q3.1:** In a totally susceptible population 1 case of Newcastle disease leads to 14 new cases. What percentage of population should be immune to make the infection stable? **(Points 3.0)**

**Q3.2:** You have determined potential risk factors associated with a disease under investigation by using an appropriate statistical model. Now, you like to causally interpret the results. What are the criteria you will follow to ascertain each of the potential factors as causally associated with the disease? Explain those criteria. **(Points 10.0)**