



# MANIPAL UNIVERSITY

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATIONS - JUNE  
2017

SUBJECT: MPH 604 - HEALTH SERVICE ADMINISTRATION AND MANAGEMENT  
(EPIDEMIOLOGY)

Monday, June 05, 2017 (10.00 - 13.00 Hrs.)

Marks: 70

Duration: 180 mins.

**Budget time across questions accordingly.**

**Answer ALL the questions.**

**Long Essay Questions.**

- 1) What is EOQ, elaborate with the help of a diagram? What are its benefits? Describe its assumptions. (10)  
(2+5+3 = 10 marks)
- 2) Compare and contrast India's healthcare system with that of the United States. (10)
- 3) What is communication? What are the barriers in effective communications? (10)  
(2+8 = 10 marks)
- 4) A Manufacturing company buys costing equipment from outside suppliers Rs.20 per unit; Total annual needs are 1000 units. The following data is available: (10)
  - i) Rent, Insurance etc. Per unit per year Re.1
  - ii) The cost of placing an order Rs.100
  - iii) Lead time 20 daysDetermine Economic Order quantity (EOQ), reorder point, Safety stock, and Total Cost?  
(4+2+2+2 = 10 marks)

**Write short notes on the following:**

- 5A) Types of training techniques to improve efficiency. (5)
- 5B) Dependent variable affecting organizational behavior. (5)
- 5C) Scope of E-communication in healthcare system. (5)
- 5D) Role of PERT in public health administration. (5)
- 5E) Principles of purchasing. (5)
- 5F) Steps of Evaluation. (5)



# MANIPAL UNIVERSITY

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATIONS - JUNE  
2017

SUBJECT: MPH 618 - APPLIED EPIDEMIOLOGY AND BIostatISTICS  
(EPIDEMIOLOGY)

Tuesday, June 06, 2017 (10.00 - 13.00 Hrs.)

Marks: 70

Duration: 180 mins.

## SECTION - A (APPLIED EPIDEMIOLOGY)

Answer ALL the questions.

- 1) Design a case control study to test the hypothesis of association between silica exposure and tuberculosis. Explain the importance of matching in case control with example. (10)  
(7+3 = 10 marks)

Write two advantages and disadvantages of the following study designs:

- 2A) Cross sectional study (2)  
2B) Ecological study (2)  
2C) Cohort study (2)  
2D) Experimental study (2)  
2E) Case series (2)

Write Short notes:

- 3A) Advantages & disadvantages of case control study. (5)  
3B) Discuss the similarities and differences between Cross sectional and Ecological studies. (5)  
3C) Population attributable risk. (5)

## SECTION - B (APPLIED BIostatISTICS)

Long answer questions.

- 4A) What are the advantages of non-parametric methods over parametric methods? Explain Kruskal Wallis ANOVA with situations to use. (10)  
(5+5 = 10 marks)  
4B) Explain the test of significance used for analysis of continuous and categorical exposure variables in an unmatched case control study? (10)  
(5+5 = 10 marks)

Write Short notes:

- 5A) Write a short note on simple linear regression? (5)  
5B) What are the requirements for the calculation of sample size for estimation of proportion and mean. (5)

5C)

Define standard error. List the factors which influence the standard error.

(5)



# MANIPAL UNIVERSITY

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATIONS - JUNE 2017

SUBJECT: MPH 608 - HEALTH ECONOMICS  
(EPIDEMIOLOGY)

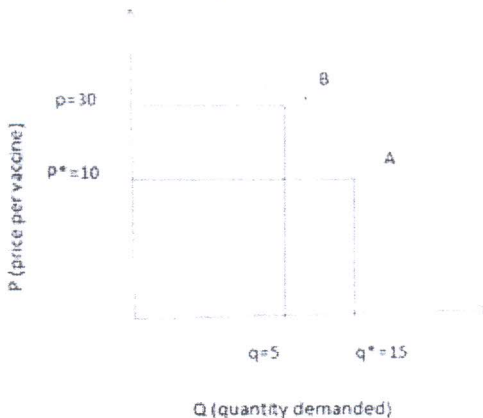
Wednesday, June 07, 2017 (10.00 - 13.00 Hrs.)

Marks: 70

Duration: 180 mins.

## Essay Question:

- 1) Study the case carefully and answer the following questions. (10)
- i) As the manager of the vaccine clinic, you would want to increase the price of influenza vaccine. The figure below shows the demand curve for influenza vaccine. The current demand ( $q^*$ ) and price ( $p^*$ ) are marked at point A on the demand curve. Point B shows the new demand ( $q$ ) and price ( $p$ ). Is price elasticity of demand elastic, inelastic or unit elastic? Can you explain why?
- ii) What would be the impact on the total revenue considering this price increase?
- iii) Define price elasticity of demand. What do you understand by Cross price elasticity of demand?



- 2) What is a market? Explain with a suitable diagram the flow of money, resources and commodities in a market. What kind of government interventions can be seen in the market? (10)
- 3) Discuss the concept of equity. Explain in detail about horizontal and vertical equity. Do you think equality of health is a feasible goal? Give reasons to support your answers. (10)
- 4) Explain along with diagram, does drug interdiction increase or decrease drug related crimes? If the government introduces drug education what is the effect on demand and drug related crimes. Explain along with diagram. (10)

**Short Notes:**

- 5A) Briefly discuss the different models of PPP practiced in healthcare industry along with suitable example. (5)
- 5B) What is economic evaluation? Discuss the different types of economic evaluation used in an economy. (5)
- 5C) Explain choice and opportunity cost and its relevance to public health. (5)
- 5D) Discuss Efficiency and Equity citing suitable examples. (5)
- 5E) Discuss the determinants of demand. Why does the demand curve usually slope downwards? (5)
- 5F) What do you understand by insurance? List out any five advantages and disadvantages of health insurance. (5)



# MANIPAL UNIVERSITY

**SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATION - JUNE 2017**  
**SUBJECT: MPH 614 - INFECTIOUS DISEASES AND SURVEILLANCE**

**(EPIDEMIOLOGY)**

**Thursday, June 08, 2017 (10.00 - 13.00 Hrs.)**

**Marks: 70**

**Duration: 180 mins.**

## **Long Essay Questions.**

- 1A) What are the difference between outbreak, epidemic and pandemic? (2)  
1B) Name one epidemic that has happened recently in India. (1)  
1C) How would you establish a surveillance system for the same? (3)  
1D) What are the steps needed to utilize surveillance data for the control of the epidemic. (4)  
2A) Describe the epidemiology of Dengue. (3)  
2B) What are the public health actions to control dengue epidemic. (4)  
2C) Is there a scope of vaccine to prevent Dengue? Justify. (3)  
3A) Define the scope of animal vaccination for control of Anthrax in humans. (3)  
3B) What is one health? How important is animal and human interface? (4)  
3C) Is there a relation between socio economic status with Anthrax risk? (3)  
4A) What are the broad strategies devised to control of TB. (4)  
4B) How HIV co-infection affects management of TB. (3)  
4C) Is BCG vaccine effective in controlling TB. Describe. (3)

## **Short Notes:**

- 5A) World Organization for Animal Health (5)  
5B) Mode of Transmission of Plague (5)  
5C) Mixed Epidemics (5)  
5D) Measles Rubella Campaign (5)  
5E) Attack Rate (5)  
5F) Filariasis Elimination (5)



# MANIPAL UNIVERSITY

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATIONS - JUNE  
2017

SUBJECT: MPH 616 - CHRONIC DISEASE AND DISABILITY  
(EPIDEMIOLOGY)

Friday, June 09, 2017 (10.00 - 13.00 Hrs.)

**Marks: 70**

**Duration: 180 mins.**

## Long Essay:

- 1) Discuss the implementation of NPCDCS program at district level. (10)
- 2) What is rule of Halves? Elaborate the primary and secondary prevention measures to control hypertension in the community. (10)
- 3) Enlist the harmful effects of smoking. What is MPOWER strategy to control tobacco problem in India? (10)
- 4) What is Disability? Enlist the causes for disability. (10)

## Short notes:

- 5A) Classification of BMI (5)
- 5B) Preventable blindness (5)
- 5C) Modifiable risk factors for Non-Communicable diseases (5)
- 5D) Theory of change and its application (5)
- 5E) Prevention of Road Traffic accidents (5)
- 5F) Prevention of breast cancer (5)