



# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATION - MAY 2018  
SUBJECT: APPLIED EPIDEMIOLOGY AND BIostatISTICS (MPH 618)  
(COMMON FOR EPIDEMIOLOGY/MCH/EOH)  
Saturday, May 26, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## SECTION A (APPLIED EPIDEMIOLOGY)

### Long answer questions:

- 1) To measure the association between passive smoking and respiratory infections (RI) among children under 12 years, a study was conducted among 500 children from smoking and 600 children non-smoking families. RI was observed among 300 children in smoking and 150 children of non-smoking families. (10)
- Identify the study design, and explain why other design is not suitable for this type of study.
  - Prepare the 2x2 table for this study using the information given.
  - Calculate the odds of being a case among the unexposed.
  - Calculate the odds ratio for RI given exposure to passive smoking as compared to non-smoking.
  - What does these odds ratios indicate?
- ((2+4)+1+1+1+1 = 10 marks)
- 2) Explain the concept of confounding in epidemiology with an example. What are different types of bias in case-control studies with an example. (10)  
(5+5 = 10 marks)

### 3) Write short notes on:

- 3A) Systematic error (5)
- 3B) Advantages and disadvantages of experimental studies (5)
- 3C) Quasi-experimental study (5)

## SECTION B (STATISTICS)

### Long answer questions:

- 4A) Give the sampling distribution of mean for large n. Give the expression for standard error of Proportion and standard error of the difference in Proportion. (4)
- 4B) The heights of a certain population of young adult females are approximately normally distributed with a mean of 160 cm and a standard deviation of 5 cm. A random sample of size n=25 is taken from this population. What is the standard error of sample mean?  
What is the probability that the mean based on a random sample of size n=25 is:  
a) more than 159 cm    b) between 159 and 162 cm.
- 5A) **Define the following:** (2)  
i) Inference    ii) Power of the test
- 5B) What are the advantages of non-parametric methods over parametric methods? (3)
- 5C) A Dentist was looking at the effects of various chocolates on pH of saliva. She wanted to see if the saliva pH produced by two different chocolates was different. After measuring the pH of 70 subjects who had eaten the two chocolates she got the following results: (5)
- | Sample size | Mean pH    | Std. deviation of pH |
|-------------|------------|----------------------|
| Chocolate A | 35    5.95 | 0.22                 |
| Chocolate B | 35    5.25 | 0.20                 |
- Construct a 95% confidence interval for the difference in means. Use the confidence interval to assess statistical significance.

### 6) Write short notes on:

- 6A) Paired Sample t-test (5)
- 6B) Scatter Diagram (5)
- 6C) Chi-square test (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATION - MAY 2018

SUBJECT: HEALTH ECONOMICS (MPH 608)

(COMMON FOR EPIDEMIOLOGY/MCH/EOH)

Monday, May 28, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay Questions:

- 1) Suppose NGOs in India had been offering small group discussions about HIV to attempt to prevent HIV transmission in Manipal University Students for some time, but no one had ever performed an economic evaluation. Individuals do not have to pay money to attend these sessions. You are part of a team that is preparing to conduct an economic evaluation from a society perspective (10)
  - a) What are type of cost that should be included in the analysis?
  - b) What are probable measures that could be used to measure benefits of the program ?
  - c) What type of economic evaluation do you think would be most appropriate?  
Justify
- 2) Explain how agency relationships are manifested in healthcare sector. (10)
- 3) What are three types of market failures that influence market for health insurance? (10)
- 4) You are working as a consultant for government of Karnataka advising them about government health insurance program. Government of Karantaka is thinking of including Delivery care (delivery of a child) into government health insurance program. What advice would you give? Explain it by providing reasons. (10)

## 5) Write short notes on:

- 5A) Explain production possibilities frontiers by giving an example. (5)
- 5B) What is law of demand? Explain by giving an example. (5)
- 5C) What is natural monopoly explain by giving an example. (5)
- 5D) Explain public good by giving an example. (5)
- 5E) Explain supply induced demand by providing a suitable example. (5)
- 5F) Explain the concept of discount ratio by providing a suitable example. (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH DEGREE EXAMINATION - MAY 2018

SUBJECT: HEALTH SERVICE ADMINISTRATION AND MANAGEMENT (MPH 604)

(COMMON FOR EPIDEMIOLOGY/MCH/EOH)

Tuesday, May 29, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay questions:

- 1A) Mention the salient features of Shrivastava committee. (6)
- 1B) What are the factors that strengthen primary healthcare? (4)
- 2) Describe the role of Manager in relation to Henry Mintzberg. (10)
- 3) What is EOQ? Elaborate with the help of a diagram. What are its benefits? Describe its assumptions. (10)  
(2+2+3+3 = 10 marks)
- 4) What is Job Description? Write on 'Job Description' of a community health nurse. (10)  
(3+7 = 10 marks)

## 5) Write short notes on:

- 5A) What are the Methods of risk assessment? (5)
- 5B) What is the use of E-communication in healthcare system? (5)
- 5C) What are the principles of purchasing? (5)
- 5D) What are the criteria for performance appraisal? (5)
- 5E) What are the benefits of inventory management? (5)
- 5F) Briefly describe types of training in healthcare system. (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (ENVIRONMENTAL & OCCUPATIONAL HEALTH)  
DEGREE EXAMINATION - MAY 2018

SUBJECT: ENVIRONMENTAL AND OCCUPATIONAL TOXICOLOGY (ENH 614)  
Wednesday, May 30, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay Questions:

- 1) Describe the health effects of chronic chromium toxicity. Explain in details the preventive methods. (10)
- 2) Classify occupational injuries. Describe the occupational factors responsible for low back pain and the measures to control it. (10)
- 3) Classify different occupational biological hazards. Describe any three bacterial hazards. (10)
- 4) Write the detail protocol for carrying out full environmental impact assessment. (10)

## 5) Write short notes on:

- 5A) Environmental carcinogens (5)
- 5B) Manganese madness (5)
- 5C) Insecticide Act (5)
- 5D) Health concerns of Genetically engineered foods (5)
- 5E) Biomarker of exposure of organochlorine pesticides (5)
- 5F) Dose response curve (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (ENVIRONMENTAL & OCCUPATIONAL HEALTH)  
DEGREE EXAMINATION - MAY 2018

SUBJECT: INDUSTRIAL HYGIENE AND HEALTH (ENH 616)

Thursday, May 31, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay Questions:

- 1) Classify dust related hazards. Enumerate the occupations resulting in exposure to free silica dust. Describe the preventive measures for silicosis. (10)
- 2) Discuss the health, safety and welfare measures for workers as mentioned in the Indian Factories Act, 1948. (10)
- 3) If you get an opportunity to work as a safety officer in a petroleum refinery, how you will ascertain the safety of the workers employed in the refinery. (10)
- 4) Enumerate different temperature related occupational health hazards. Describe in details heat stroke and methods to prevent it. (10)

## 5) Write short notes on:

- 5A) Source reduction of dust (5)
- 5B) Material Safety Data Sheet (5)
- 5C) Permissible exposure level (5)
- 5D) Non-auditory health effects of noise (5)
- 5E) Notification of diseases (5)
- 5F) Wet suppression (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (MATERNAL & CHILD HEALTH) DEGREE  
EXAMINATION - MAY 2018

SUBJECT: BASICS OF MATERNAL AND CHILD HEALTH (MCH 614)  
Wednesday, May 30, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay Questions:

- 1A) Name the safe motherhood intervention under NHM to reduce neonatal and maternal mortality that was launched in April 2005. (1)
- 1B) What are the various features of the intervention? (7)
- 1C) How effective have the intervention been in reducing the neonatal and maternal mortality in India. (2)
- 2A) Define Postnatal Period. (2)
- 2B) Enlist and explain the components of postnatal care for mother and child. (8)
- 3A) What is exclusive replacement feeding? (3)
- 3B) What are the conditions to be satisfied if a HIV positive mother does not want to exclusively breastfeed her infant? (7)
- 4) Discuss in detail the stages of demographic transition. Add a descriptive note on the factors which has caused population growth in India over the past two decades. (10)

## 5) Write short notes on:

- 5A) Village Health Nutrition Day (5)
- 5B) Indirect Maternal Morbidity (5)
- 5C) Newborn Care Corner (5)
- 5D) Baby Friendly Hospital Initiative (5)
- 5E) Enlist the measures to prevent micronutrient malnutrition (5)
- 5F) Gestational Diabetes (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (MATERNAL & CHILD HEALTH) DEGREE  
EXAMINATION - MAY 2018

SUBJECT: DEMOGRAPHICS AND POPULATION SCIENCES (MCH 616)  
Thursday, May 31, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

**Long answer questions:**

- 1) Define urbanization. Describe the causes and consequences of urbanization in India. (10)  
Suggest measures to control urbanization.  
(2+3+3+2 = 10 marks)
- 2) Explain the 'push' and 'pull' factors of migration. What are the public health consequences of out-migration in India. (10)  
(3+3+4 = 10 marks)
- 3) Explain the reasons for higher maternal mortality in India. Suggest the measures to address maternal mortality. (10)  
(5+5 = 10 marks)
- 4) Define Population studies. Explain the Importance of demography in public health planning. (10)  
(4+6 = 10 marks)

**5) Write short notes on:**

- 5A) Importance of age at marriage in population structure (5)
- 5B) Socio-economic factors affecting high fertility in India (5)
- 5C) Five fertility indicators (5)
- 5D) Population balancing equation (5)
- 5E) Importance of age-pyramid in public health (5)
- 5F) Stages of demographic transition (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (EPIDEMIOLOGY) DEGREE EXAMINATION - MAY  
2018

SUBJECT: INFECTIOUS DISEASE AND SURVEILLANCE (MPH 614)

Wednesday, May 30, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Essay Questions:

- 1A) What are the major vectors for Malaria in India? (2)
- 1B) What is the role of bed net in prevention of Malaria? (3)
- 1C) Is Malaria transmission related to migratory labor force? Explain with suitable examples. (5)
- 2A) What is Multi Drug Resistant Tuberculosis? (2)
- 2B) How is Isoniazid resistance affecting Tuberculosis case management in India? Are these issues adequately addressed in India? (6)
- 2C) What are the new diagnostics for Tuberculosis? (2)
- 3A) What is event based surveillance and indicator based surveillance? (2)
- 3B) Which is the organization in India that has most of the surveillance information? Describe the system and draw a plan for its evaluation. (8)  
(2+6 = 8 marks)
- 4A) Which are the major Neglected Tropical Diseases of importance to India? (3)
- 4B) How to control Lymphatic Filariasis? (3)
- 4C) Compare the control strategy with that of Dracunculiasis. (4)

## 5) Write short notes on:

- 5A) One Health (5)
- 5B) Human Brucellosis (5)
- 5C) Rabies (5)
- 5D) Leptospirosis (5)
- 5E) Epidemics Pattern (5)
- 5F) Global Outbreak Alert Response Network (5)

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# MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MASTER OF PUBLIC HEALTH (EPIDEMIOLOGY) DEGREE EXAMINATION - MAY  
2018

SUBJECT: CHRONIC DISEASE AND DISABILITY (MPH 616)  
Thursday, May 31, 2018 (10.00 - 13.00)

Marks: 70

Duration: 180 mins.

## Long Essays:

- 1) Briefly discuss the key steps in the development of "Non-communicable disease" (NCD) action plan. Add a descriptive note on the strategies of National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS). (10)  
(6+4 = 10 marks)
- 2) Discuss in detail the major activities under Revised National Tuberculosis control programme (RNTCP). Add a note on New Initiatives for Tuberculosis control in India. (10)  
(7+3 = 10 marks)
- 3) HIV/AIDS is declining in India. Explain the statement with suitable evidence. (10)
- 4) Enlist and explain the types of childhood injuries. What are the various factors that influence child injury. (10)  
(5+5 = 10 marks)

## 5) Short Notes:

- 5A) International best practices to prevent road traffic accidents (5)
- 5B) Preventive measures for food borne poisoning (5)
- 5C) "India will be the next diabetic capital of world" -Elaborate (5)
- 5D) Protection of Women from Domestic Violence Act 2005 (5)
- 5E) MPOWER strategy (5)
- 5F) Major Micronutrient's deficiency in India. And explain any one deficiency, its causes, effects and steps taken to control it. (5)

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