

KATHMANDU UNIVERSITY
End Semester Examination
July/August, 2024

Marks Scored:

Level : B.Pharm.
Year : III

Course : PHAR 319
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date :

01 AUG 2024

SECTION "A"

[20 Q. × 1 = 20 marks]

Choose and MARK [X] in the most appropriate option from each set of choices

- Which of the following is a direct medical cost and indirect nonmedical cost?
 Pain and transportation
 Drugs and suffering
 Mortality and morbidity
 Medical professional time and lost productivity
- Number of new cases of disease in a population identified in a follow-up study is a:
 Incidence Incidence density Prevalence Specific number
- When quantifying the value of a clinical pharmacy service, your intention is to express the benefits gained due to service in a monetary value, your analysis is a:
 CBA CMA CUA COI
- Which of the following statements provides the best description of ICER?
 Summary measurement of efficacy
 The cost per benefit of a new strategy, independent of other treatment alternatives
 The extra cost to obtain extra benefit from switching to another alternative
 The cost per QALY
- Which of the following statement is true regarding modeling strategy?
 It can confuse efficacy with effectiveness
 It can be used to assess efficacy but not effectiveness
 It is a relatively inexpensive method to obtain pharmacoeconomics information
 It is too time consuming and not robust as RCTs
- Which of the following are common modeling techniques employed?
 Markov model Monte Carlo simulation
 Decision model All of the above
- Which of the following represents direct benefits in a CBA analysis?
 Travel to treatment Work missed
 Pain and suffering Hospital readmission avoided
- The higher the cost effectiveness ratio, the alternative is:
 Less preferred Rejected
 Considered as superior Highly preferred

9. One of the following is a method to identify WTP:
 RCTs Systematic reviews
 Public surveys Meta-analysis
10. One of the represents disease rate _____
 Morbidity QOL Mortality Patient satisfaction
11. A systematic approach to make optimal choices under conditions of uncertainty in an acute condition:
 Drug licensing Discounting Decision analysis Markov analysis
12. _____ allows the higher costs of less healthy to be offset by the relatively lower costs of the healthy:
 Profit making Profit sharing Risk pooling Investment
13. The appropriate use of CMA requires:
 Outcomes must be adjusted for QoL
 Outcomes must calculate ICER
 Outcomes of each alternative must be equivalent
 Outcome must calculate DCER
14. Term used to describe the amount an individual pays regularly to maintain their coverage?
 Deductible Copayment Premium Bonus
15. Which stakeholder group is not directly involved in the HTA process?
 Pharmaceutical companies Policy makers
 Patients Health care providers
16. Analysis typically used in HTA to compare the cost and outcomes of interventions:
 CBA and CEA Risk-benefit analysis
 Descriptive analysis Qualitative analysis
17. Evidence based medicine (EBM) is best described by:
 Use of current best evidence in making decision
 Use of personal experience to make decision
 Relying on previous practices
 Ignoring patient preferences
18. Life years extended due to old drug A (Rs 500) and new drug B (Rs 1000) is 7 years and utility score due to A=0.7, B=0.9. What is the incremental cost/QALY?
 500 50 357 400
19. A person lives with diabetes for 5 years (disability weight 0.2) and died 30 years before his life expectancy. What is the total DALY value?
 35 DALYs 31 DALYs 36 DALYs 38 DALYs
20. Massive roll out of a screening based intervention in a community to quantify the prevalence of cervical cancer is an example of _____ intervention.
 Therapeutic Preventive
 Preventive and therapeutic Educational

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SECTION "B"

[5 Q. × 3 = 15 marks]

Attempt ANY FIVE questions.

1. Discuss on impact of health insurance in public health.
2. Define HRQOL and the major domains studied under HRQoL.
3. Define QALY and DALY with suitable examples.
4. Discuss on various outcomes studied under a pharmacoeconomic evaluation.
5. Explain cost benefit analysis (CBA) with an appropriate example.
6. Justify the need of HTA practices in Nepal.
7. Write short notes on
 - a. Willingness to pay threshold (WTP)
 - b. Opportunity cost

SECTION "C"

[5 Q. × 5 = 25 marks]

Attempt ANY FIVE questions.

8. List out the benefits of pharmacoeconomic modeling. Explain markov modeling with an example.
9. Discuss on the ideal properties of HRQoL instruments and various measures to assess them.
10. A hospital wants to list drug X for treating CHF in a hospital formulary. Discuss on the major steps involved for HTA analysis for this product.
11. What are the advantages of cost of illness studies? Discuss with relevant example.
12. What is Universal Health Coverage? Elaborate on different types of health insurance systems with relevant examples.
13. There appears to be a massive outbreak of dengue in a community. As a director of research division, what are different kinds of interventional projects you would prioritize for funding and why?
14. Explain CEA and the importance of ICER plane for CEA studies with appropriate example.

P.T.O.

SECTION "D"

[2 Q. × 7.5 = 15 marks]

Attempt ANY TWO questions.

15. How HIB operates in Nepal? Discuss on its impact, major objectives, structure and enrolment criteria for general public.
16. There is a recent introduction of a new intervention (drug therapy) for treating pulmonary embolism in a pregnant patients. Plot a decision tree from the provided data and calculate the sum weighted outcome incorporating cost and survival as a pay-off. Calculate ICER and interpret your findings.

Below is the data for new vs. conventional treatment.

Parameter	Value
Risk of major bleeding with new treatment	10%
Risk of death due to major bleeding with new treatment	5%
Cure rate if no bleeding with new treatment	90%
Cure rate with conventional treatment	50%
Cost of new treatment	Rs 15,000
Management cost of major bleeding with new treatment	Rs. 5000
Cost of conventional treatment	Rs. 5000

17. Explain on the need for carrying on budget impact analysis (BIA). What are the steps involved for performing BIA, explain with a suitable BIA model.