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Enrolment No:



Semester: II

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2022

Course: Advanced Epidemiologic and Clinical Research Methods

Program: M.Sc. (Clinical Research)

Course Code: HSCR7011

Time : 03 hrs.

Max. Marks: 100

Instructions: Attempt all the questions

Q.No	Section A Short engine of MCO/T & F	(20Q x1.5M= 30 Marks)	COs
	Short answer questions/ MCQ/T&F	,	
Q	Attempt all the questions		СО
1.	Epidemiological concept include all except	1.5	CO1
	a) Distribution of disease b) Frequency of disease		
2.	b) Pathology of disease d) Determinant of disease Which of the following terms is not associated with epidemiology	1.5	CO1
	a) Infectionb) Injectionc) Contaminationd) Infestation		
3.	Covid-19 is an example of	1.5	CO1
	a) Epidemic b) Endemic c) Pandemic d) Sporadic		
4.	Which of the following is not an example of primary data	1.5	CO3
	a) Surveyb) Questionnaireb) Interviewd) Review article		
5.	Rate ratio is calculated in	1.5	CO3
	a) Cohort studyb) Case-control studyb) Cross-sectional studyd) Case-series study		
6.	Hill's criteria include	1.5	COI
	a) Temporality b) Coherenceb) Consistency d) All of the above		
7.	Causal inference does not deal about a) To identify causes of disease b) To decide the effective of treatment c) To maximize the biasness	1.5	CO1

	Section B	(4Qx5M=20 Marks)	СО
20.	What do understand by type-I and type-II error?	1.5	CO3
19.	What do you mean by ecometrics?	1.5	CO3
18.	Name two predictive models.	1.5	CO1
17.	Define the term propensity score.	1.5	CO1
16.	Targeted maximum likelihood is the combination of ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.5	CO1
15.	Inverse probability weight is ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.5	CO1
14.	Effect modifier provides useful information, while confounding factor creates distortion of the effect a) True b) False	1.5	CO2
13.	Network meta-analysis is to compare two treatment effects a) True b) False	1.5	CO4
12	a) True b) False		901
12.		1.5	CO3
11.		1.5	CO3
	c) Protopathic bias d) Healthy worker effect		
10.	Which of the following is not a type of information bias a) Misclassification bias b) Ecological fallacy	1.5	CO2
	c) Over diagnosis bias d) Lead time bias		
9.	Which of the following is not a type of selection bias a) Recall bias b) Loss to follow-up	1.5	CO2
0	c) Biasness d) Attributable risk	1.5	CO2
	a) Causation b) Ratio		
8.	Which of the following is not a measure of association	1.5	CO1

Q	Attempt all the questions		
1.	What do you mean by positive/negative and direct/indirect associations. Provide examples.	5	CO1
2.	Mention misclassification bias and ecological fallacy with examples.	5	CO2
3.	Define retrospective and prospective cohort study design with examples.	5	CO3
4.	Explain multivariate meta-analysis with an example	5	CO4
	Section C	(2Qx15M=30 Marks)	
Q	Attempt all the questions (Case studies)		СО
1.	Background: The prevalence of prostate cancer has increased in your country over the last 5 years.	5+5+5=15	CO3
	• You want to examine the association between calcium intake and prostate cancer risk.		
	 You have limited time and funding to conduct this study. 		
	Questions:		
	1. What type of study would you conduct?		
	2. Why would you conduct that specific type of study?		
	3. What is the measure of association to calculate for this study?		
2.	 Non-communicable disease such as type 2 diabetes are poorly understood and under-prioritized in many low-to-middle income countries. You want to determine the risk of type 2 diabetes associated with cardiovascular risk factors such as obesity and abdominal fat mass in your country. Questions: What type of study would you conduct? Why would conduct that specific type of study? What is the measure of association to calculate for this study? 	5+5+5=15	CO3
	Section D	(2Qx10M=20 Marks)	
Q	Attempt all the questions		СО
1.	Elaborate the different types of sampling methods with examples.	10	CO3

2.	Explain the various steps involved in meta-analysis.	10	CO4