

Ph.D. COURSE WORK EXAMINATION (JUNE, 2018)
RESEARCH METHODOLOGY, QUANTITATIVE TECHNIQUES AND COMPUTER APPLICATIONS
Subject Code: PHDRM100

Time allotted: 3 Hours

Max Marks: 100

Note : The paper is divided into 3 Sections. Candidate has to attempt total seven questions. Three questions (one from each unit) must be attempted from Section A. Two questions must be attempted from Section B and two questions from Section C.

SECTION-A (RESEARCH METHODOLOGY)

UNIT I

Q.1. What is research? Discuss different steps in designing research studies. (5+15)

OR

Write down the research question and its significance. How does it differ from aims & objectives. (4+6+10)

UNIT II

Q.2. Research design in exploratory studies must be flexible but in descriptive studies, it must minimize bias and maximize reliability. Discuss. (20)

OR

Explain the following: (10+10)

- a. How are objectives different from a hypothesis?
- b. What is the difference between null hypothesis and alternate hypothesis?

UNIT III

Q.3. Answer the following: (10+10)

- a. Explain the protocol of development of a scale.
- b. What do you mean by the term reliability with respect to scales?

OR

Explain the following: (12+8)

- a. What is the difference between Summary and Conclusion in a Ph.D. Thesis?
- b. How to design the Material and Methods in a Ph.D. Thesis?

SECTION-B (QUANTITATIVE TECHNIQUES)

UNIT IV

Q.4. Briefly describe the important parametric test used in context of testing hypothesis. How do such tests differ from non-parametric tests? Explain. (4+6)

Q.5. Write short notes on: (5+5)

- a. Regression analysis
- b. Normal and skewed data

Q.6. The duration of time from first exposure to HIV infection to AIDS diagnosis is called the incubation period. The incubation periods of a random sample of 14 HIV infected individuals is given below (in years):

12.0, 10.5, 5.2, 9.5, 6.3, 13.1, 13.5, 12.5, 10.7, 7.2, 14.9, 6.5, 8.1, 7.9

Calculate the mean, median & standard deviation. (3+3+4)

SECTION-C (COMPUTER APPLICATIONS)

UNIT V

Q.7. What is Scopus? How to access it? What is the default mode of searching in Scopus? What are other fields that can be searched? What are the basic operations that can be performed on search results? On what parameters, results could be sorted. (2+2+2+2+2)

Q.8. Explain how to import and export data in SPSS? (10)

Q.9. List the steps involved in applying animation to an object. Elaborate different types of animation effects. (5+5)

Registration No. DD.....

Ph.D. COURSE WORK EXAMINATION, JUNE-2018

ADVANCES IN MARKETING MANAGEMENT

Subject Code : PHDMG113

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt five questions more (ensuring one question is answered from each unit).

- Q.1. Write in brief on all of the following: (2.5*10=25)
- Define marketing. Also write the evolution of marketing. How is it different from selling?
 - What is Right set of circumstances? How does it enable effective selling?
 - What is affordability for rural market? Explain.
 - Psychographic segmentation can help in understanding Indian consumer market. How?
 - Define the role of perception in developing marketing strategies with suitable examples.
 - How are surveys done? List the main methods of doing so.
 - Explain the advantages and disadvantages of social media marketing.
 - What is the role of market research companies?
 - How are products positioned in the mind of the customer?
 - How has WTO evolved in world trade practices?

UNIT I

- Q.2. a. What are customer value, satisfaction and loyalty and how do companies deliver them? (8)
b. What are pros and cons database marketing? (7)

OR

- Q.3. What are the tasks necessary to for successful marketing ?Also define the core marketing concepts. (15)

UNIT II

- Q.4. a. Explain the components of modern marketing information system? Also explain the useful records of such systems. (8)
b. How can companies accurately measure and forecast demand in Uttarakhand? (7)

OR

- Q.5. How has rural marketing become important in India? Explain with the help of various environmental components. Draw the comparative picture of rural marketing and urban marketing mix. (15)

UNIT III

- Q.6. a. Develop a market research plan for a new cell phone company in state of Uttarakhand. (5)
b. How is segmentation useful in understanding for minimizing the efforts for marketers? Enumerate with suitable examples. (5)
c. What do you understand by advertising effectiveness? What are various ways of measuring it? Explain the role of regulation in advertising. (5)

OR

- Q.7. a. What is sales management? Write the process of personal selling for any service industry product. (8)
b. What do you understand by BRAND? How is branding done? Explain how brand management is done in case of any telecom company . (7)

UNIT IV

- Q.8. a. How is India being influenced by world trade? Write the status of relation with Pakistan in current geo political conditions. Also explain the effect of Indian marketing scenario. (8)
b. What major constraints do you see in global marketing practices? (7)

OR

- Q.9. Discuss foreign trade policy of India also tell the effect on marketing strategies of these policies. (15)

UNIT V

- Q.10. a. What are key marketing issues for 21st century service organizations ? Elaborate. (8)
b. How does digital marketing work and why is online marketing increasingly preferred over offline marketing? (7)

OR

- Q.11. How can we target our potential customer in social media through funnel approach? Explain how to measure its success? (15)

Ph.D. COURSE WORK EXAMINATION, JUNE-2018

ADVANCES IN ONCOLOGY SCIENCE

Subject Code : PHDOC110

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt five questions more (ensuring one question is answered from each unit).

- Q.1. Write in brief on all of the following: (2.5x10=25)
- a. Cancer vaccine
 - b. Cell cycle check points
 - c. Cellular senescence
 - d. Telomere maintenance
 - e. EGFR
 - f. Neuro endocrine tumors
 - g. PET scan
 - h. Radio immunotherapy
 - i. Bone marrow transplantation
 - j. Cancer stem cells

UNIT I

- Q.2. a. Tumor suppressor gene (15) b. Mediators of angiogenesis (15)

OR

- Q.3. a. Apoptosis (15) b. Tumor heterogeneity (15)

UNIT II

- Q.4. a. Oncogenic viruses (15) b. Chemical factors in carcinogenesis (15)

OR

- Q.5. a. Cancer and inflammation (15) b. Dietary factors in carcinogenesis (15)

UNIT III

- Q.6. a. Multimodality treatment of cancer (15) b. Pain management in oncology (15)

OR

- Q.7. a. Cancer screening (15) b. End of life care (15)

UNIT IV

- Q.8. a. Hormone therapy for cancers (15) b. Tyrosine kinase inhibitors (15)

OR

- Q.9. a. Dose limiting toxicities (15) b. Colony stimulating agents (15)

UNIT V

- Q.10. a. Proto oncogene (15) b. Genetic testing for cancers (15)

OR

- Q.11. a. Gene silencing (15) b. Gene expression profile (15)

Ph.D. COURSE WORK EXAMINATION, JUNE-2018
ADVANCES IN BIOCHEMISTRY

Subject Code : PHDBC110

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt five questions more (ensuring one question is answered from each unit).

(2.5x10=25)

- Q.1. Write in brief on all of the following:
- What do you understand by marker?
 - Why is UV light used in Laminar Air Flow Chambers?
 - What do you understand by background radiation?
 - What is the meaning of probe labeling?
 - What do you understand by protein interactions?
 - List the various applications of chromatography.
 - Explain the 2 D PAGE technique.
 - What is epigenetics?
 - List the main differences in RIA and ELISA.
 - Explain the benefits of phage using as vector.

UNIT I

Q.2. Discuss the basic structure and functioning of GLC. How can we use this instrument in biochemistry? (15)

OR

Q.3. Write a detailed note on the different blotting techniques. (15)

UNIT II

Q.4. What do you understand by YACs and BACs? (15)

OR

Q.5. How you will construct cDNA and genomic library? What are the benefits of genomic library? (15)

UNIT III

Q.6. Discuss the role of ultraviolet and LASER in biological sciences. (15)

OR

Q.7. What are radioisotopes and how can they be utilized for research purposes? (15)

UNIT IV

Q.8. What do you understand by functional genomics? Discuss its uses in life sciences. (15)

OR

Q.9. Discuss the basic principles of sequencing of genome, what is the need for gene sequencing? (15)

UNIT V

Q.10. Discuss in detail the applications of proteomics technique. (15)

OR

Q.11. Discuss the principle and function of MALDI-TOF. What is the advantage over conventional biological techniques. (15)

- b. Describe the technique and clinical use of volumetric modulated arc therapy (VMAT). (7.5)

UNIT IV

- Q.8 a. Define computed tomography dose index (CTDI). How it is measured? (7.5)
b. Why the half value layer (HVL) is used as an index of X-ray beam quality? (7.5)

OR

- Q.9 a. Describe the principle of nuclear magnetic resonance. (7.0)
b. Write short notes on: (i) CT ring artifact; (ii) Continuous wave Doppler imaging (4x2=8)

UNIT V

- Q.10 a. Explain the principle of positron emission tomography. (7.5)
b. Discuss the desired properties of radiotracers used in nuclear medicine. (7.5)

OR

- Q.11 a. Derive the law of radioactive decay (5)
b. Write the principle of scintillation detector. (5)
c. Describe the methods of radioactive waste disposal (5)

UNIT I

- Q.1 a. Define clinical target volume (CTV) and "planning target volume (PTV) as per ICRU 53 recommendations. (7.5)
b. Why portal imaging is required? What are different types of electronic portal imaging devices (EPID)? used in clinical setting? (7.5)

OR

- Q.2 a. Discuss the criteria for selecting phantom material for radiotherapy dosimetry. Give examples of commonly used tissue substitutes. (7.5)
b. What are the advantages and limitations of MQSFT dosimeters for MV proton beam dosimetry? (7.5)

UNIT II

- Q.3 a. Define the intensity function and geometry function in the AAPM TG-43 dose calculation formalism. (7.5)
b. Write the ICRU system of dose specification for intracavitary brachytherapy. (7.5)

OR

- Q.4 a. What is gated dose rate brachytherapy? (7.5)
b. Discuss various methods for source localization in brachytherapy. (7.5)

UNIT III

- Q.5 a. Compare and contrast a ¹²⁵I brachytherapy and a gamma knife. (7.5)
b. Discuss the principle of respiratory gated radiotherapy and enumerate its benefits. (7.5)

OR

- Q.6 a. What is proton therapy? Discuss its merits over conventional radiation therapy. (7.5)

Registration No.

Ph.D. COURSE WORK EXAMINATION, JUNE-2018
ADVANCES IN PHYSIOLOGY

Subject Code : PHDPY110

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt five questions more (ensuring one question is answered from each unit).

- Q.1. Write in brief on all of the following: (2.5×10=25)
- Ionic basis of action potential
 - Classification of hormones
 - Morphological and electrical properties of cardiac muscles
 - Functions of the kidneys
 - Endocrine functions of testes
 - Chemoreceptors
 - Actions of insulin
 - Lung function tests
 - Hypoxia
 - Intestinal motility

UNIT I

Q.2. Define synapse. Classify it. Describe events occurring at synapses. (15)

OR

Q.3. Describe the functions of cerebellum. (15)

UNIT II

Q.4. Describe the mechanism of action of hormones. (15)

OR

Q.5. Describe the hormones regulating growth and development. (15)

UNIT III

Q.6. Describe the regulation of cardiac output. (15)

OR

Q.7. Describe the various methods that control blood pressure. (15)

UNIT IV

Q.8. Describe neural regulation of respiration. (15)

OR

Q.9. Describe transport of oxygen in body. (15)

UNIT V

Q.10. Describe role of kidney in acid base balance. (15)

OR

Q.11. Describe the gastric acid secretion in stomach. (15)

Registration No.DD.....

Ph.D. COURSE WORK EXAMINATION, JUNE-2018
ADVANCES IN BIOTECHNOLOGY Subject Code : PHDBT110

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt five questions more (ensuring one question is answered from each unit).

- Q.1. Write in brief on all of the following: (2.5*10=25)
- Production of organic acids
 - Mycopesticides
 - Preparation of cloning vectors
 - Probe labeling
 - Nucleic acid sequences as a drug for combating genetic diseases
 - DNA vaccines
 - Gene silencing
 - DNAi protein microarray
 - Yeast two-hybrid systems
 - Proteomics

UNIT I

- Q.2. Write notes on the following: (5*3=15)
- Bio-fertilizers
 - Bio-pesticides
 - Composting

OR

- Q.3. Write down about following ways of water treatment processes. (5*3=15)
- Physical treatment
 - Chemical treatment
 - Biological treatment

UNIT II

- Q.4. a. Write the steps to isolate: (5*2=10)
- Plasmids
 - DNA
- b. Write basic steps of gene cloning. (5)

OR

- Q.5. a. Write the construction of: (5*2=10)
- cDNA
 - Genomic libraries
- b. Write screening strategies of recombinants. (5)

UNIT III

Q.6. Describe different types of new drug therapies.

(15)

OR

Q.7. a. Write a note on production of

(5*2=10)

i. Interferons

ii. Nucleic acid sequences as new drug for the treatment of infectious diseases

(5)

b. Molecular breeding of plant.

UNIT IV

Q.8. a. What are protein markers?

(5)

b. Write a note on types of stem cells and stem cell technology.

(5*2=10)

OR

Q.9. a. Define and explain the term 'metagenomics'.

(5)

b. Write notes on:

(5*2=10)

i. Bioethics

ii. IPR

UNIT V

Q.10. Discuss various genome sequencing techniques and methods for sequence assembly.

(15)

OR

Q.11. Write notes on:

(5*3=15)

a. 2-D page

b. MALDI-TOF

c. Applications of proteomics

SWAMI RAMA HIMALAYAN UNIVERSITY
SWAMI RAM NAGAR, JOLLY GRANT, DEHRADUN-248016

Ph.D. COURSE WORK EXAMINATION, JUNE-2018

ADVANCES IN NURSING

Subject Code : PHDNS110

Time allotted : 3 Hours

Max Marks : 100

Note : The candidate has to attempt total six questions. Question no.1 is compulsory. Attempt any Five questions from Q. No 2 to 11.

Q.1. Write in brief on all of the following:

(2.5x10=25)

- a. What are the four major concepts in meta paradigms of nursing?
- b. List the authors of Grand Nursing Theories?
- c. What are the advantages of multiple choice questions?
- d. Differentiate between subjective and objective evaluation with an example.
- e. Principles of making essay type questions.
- f. Disadvantages of lecture method
- g. Benefits of OSCE as a method of teaching
- h. What are the qualities of a good teacher?
- i. What is the meaning of a collaboration model in nursing?
- j. How can you create a student learning environment?

Q.2. a. Define Teaching Learning process.

(5+4+6=15)

- b. What is the importance of feedback of Teaching Learning process by students?
- c. How will you motivate teachers to deal with negative feedback from students?

Q.3. a. Define evaluation.

(3+5+7=15)

- b. Prepare criteria of classroom and clinical evaluation?
- c. Explain merits and demerits of both methods of evaluation with appropriate example.

Q.4. a. Describe the need for student counseling.

(5+6+4=15)

- b. What are the major points to keep in mind while counseling students?
- c. As a Nurse administrator, how will you prepare teachers to facilitate continuous counseling of students?

Q.5. a. What are the three domains of Educational Objectives?

(6+5+4=15)

- b. What evaluation criteria to be followed while constructing theory paper of any given subject?
- c. What evaluation criteria to be followed while conducting practical examination in clinical setting?

Q.6. You have been assigned to coordinate remedial teaching sessions for few failed students of various nursing programs before final university examination.

(5+6+4=15)

- a. What is Remedial Teaching?
- b. What points will you keep in mind while implementing the plan so that students and teachers are motivated to join your venture?
- c. How will you evaluate the process?

Q.7. a. What is evidence based practice?

(4+5+6=15)

- b. How is evidence based practice related to Research?
- c. How can Nurse Leaders facilitate evidence based practice in clinical setting?

- Q.8.** How nursing leaders must embrace innovation and engage newer strategies for responding to the changing demands for nursing practice? **(15)**
- Q.9.** Mrs Joy, an elderly woman in her mid-80s, attends a general health clinic. She is a hypertensive and has a history of coronary artery disease. Joy is widowed and lives with her only son. Apply a nursing theory that you would choose in taking care of Mrs Joy. **(15)**
- Q.10. a.** What is Critical Thinking? **(4+5+6=15)**
b. How does critical thinking enable students to achieve learning objectives?
c. What a teacher must do in order to help students develop critical thinking skills and take critical action?
- Q.11.** 'THE PURPOSE OF TEACHING IS TO FACILITATE LEARNING'. **(15)**
 Considering the above statement, briefly explain the factors you would like to consider while re-designing a curriculum for basic B.Sc. Nursing program in a premier nursing college which is desirous to become a centre of excellence in Nursing Education, Nursing Research and Nursing Practice.
