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Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)
ADVANCES IN BIOTECHNOLOGY
Subject Code: PHDBT110

Time allotted: 3 Hours

Max Marks: 100

Note : Candidate has to attempt all questions.

- Q.1. Write in brief on all of the following:** **(2.5x10=25)**
- a. Write a note on mycorrhizal uses.
 - b. List the main differences between biofertilizers and biopesticides.
 - c. Write down benefits of phage using as vector.
 - d. What do you understand by probe labeling?
 - e. Why Genomic vaccines are preferred over conventional vaccines?
 - f. What do you understand by molecular breeding of plants?
 - g. What is the meaning of Gene knock out? Write two uses.
 - h. What are YACs and BACs?
 - i. Write the use of 2-D PAGE technique.
 - j. What do you understand by protein interactions?
- Q.2. Fungi could be employed in future as nutraceutical food source. Discuss.** **(15)**
- Q.3. How you will construct cDNA library? What are the benefits of genomic library over cDNA library?** **(10+5=15)**
- Q.4. What are the applications of Genetic Engineering? Discuss the applications with example.** **(15)**
- Q.5. What do you understand by RNAi and gene silencing, why this technique is preferred over conventional approaches?** **(7.5+7.5=15)**
- Q.6. Enlist the methodologies of proteomics and explain any one.** **(15)**

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Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)
ADVANCES IN FINANCE & FINANCIAL MARKETING
Subject Code: PHDMG111

Time allotted: 3 Hours

Max Marks: 100

Note : Candidate has to attempt all questions.

- Q.1. Write in brief on all of the following:** **(2.5x10=25)**
- a. Distinguish between primary and secondary securities.
 - b. Name some asset based financial services.
 - c. What are the various utility services provided by banks to the public?
 - d. What are the functions of IFCI?
 - e. Write a short note on ICICI.
 - f. What does ICRA stands for?
 - g. Write a short note on CDSL.
 - h. What is a corporate credit card?
 - i. What do you understand by balanced fund?
 - j. What is the main objective of EXIM Policy?
- Q.2. "A well-developed financial contributes significantly in the economic development." Explain.** **(15)**
- Q.3. Discuss the types of financial markets. How these two markets are interrelated.** **(15)**
- Q.4. What do you understand by electronic settlement of trade? Discuss the procedure of purchasing and selling of dematerialized securities.** **(15)**
- Q.5. Is GST really beneficial for the people below poverty line? Discuss.** **(15)**
- Q.6. What do you mean by 'Foreign Exchange Market'? Discuss the role played by the main participants in this market.** **(15)**

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Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)
ADVANCES IN HUMAN RESOURCE MANAGEMENT
Subject Code: PHDMG112

Time allotted: 3 Hours

Max Marks: 100

Note : Candidate has to attempt all questions.

- Q.1. Write in brief on all of the following:** **(2.5x10=25)**
- a. HRM Vs HRD
 - b. SWOT analysis
 - c. Employee stock option
 - d. Stress management
 - e. Employee empowerment
 - f. Quality of work life
 - g. Performance management
 - h. Human resource diversity
 - i. Cross cultural management
 - j. Performance management
- Q.2. "Human resource management involves two categories of functions-managerial and operative". Describe these functions.** **(15)**
- Q.3. a) A private college in Delhi has a problem with staff turnover. Every year they find themselves having to employ new lecturers which is not good for the institution and the learners. One of the major functions of human resource is retention. In light of the above, discuss what the H R manager of this college can do to retain staff?**
- b) What competencies are important for success in HR management?** **(8+7=15)**
- Q.4. a) What is merit pay? Do you think it's a good idea to award employees merit raises? Why or why not?**
- b) What are some advantages of increased workplace diversity in the workplace? What support conditions must be present in order to achieve these advantages?** **(7.5+7.5=15)**
- Q.5. a) What is work stress? Explain its causes and consequences. Is it a desirable phenomenon?**
- b) What can be the various strategies to improve the Quality of work life of employees in a business organization?** **(7.5+7.5=15)**
- Q.6. a) What problems can be faced by the repatriate after returning from an international assignment? What can the organizations do to minimize such problems?**
- b) Write short notes on:**
- i. Importance of IHRM
 - ii. Cross Cultural training
- (7+8=15)**

Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)**ADVANCES IN MARKETING MANAGEMENT****Subject Code: PHDMG113****Time allotted: 3 Hours****Max Marks: 100****Note : Candidate has to attempt all questions.****Q.1. Write in brief on all of the following: (2.5x10=25)**

- Briefly discuss the questions that marketing should ask when monitoring and controlling execution and performance of a marketing offer.
- What are the major approaches a firm can use to acquire customers?
- List five stages of the product form life cycle.
- Discuss the environmental factors that influence the consumer purchase-decision process.
- Discuss the four strategic options for the timing of market entry.
- List the four stages of developing a perceptual map for targeting.
- Discuss the four basic options that follower firms have in the early growth stage of the product life cycle.
- Discuss the concepts of firm brand equity and customer brand equity.
- List four arguments that support global branding.
- In what ways do rural consumers differ from urban consumers?

Q.2. Discuss the emerging approaches to marketing organizations. Elaborate with examples. (15)**Q.3. Using the BCG Matrix**

In the following mini-case study, you are required to categorize the corporation's business portfolio into the four boxes of the BCG (Boston Consulting Group) model. You then need to decide how the management should allocate ₹250 million funds available across their strategic business units (SBUs), using the BCG matrix as a guide.

The IGL Group is a hypothetical diversified firm operating in India. Created less than 20 years ago, IGL has clear goals of strong growth and achieving dominance in all the markets that it chooses to compete in. The corporation now has four SBU's, as follows:

- A chain of fast food restaurants (General Manager = Rajat)
- A manufacturer of Smart Phones (General Manager = Kajal)
- A 'branding' marketing consulting firm (General Manager = Babita)
- A bus travel company (General Manager = Abhishek)

It is strategic planning time at IGL and each of the General Managers are outlining their resource requirements with the founders. (Note: There is ₹250m available to reinvest into the business.)

The following are some excerpts from the minutes of the meeting:

Rajat: 'My fast-food division is the only one that is making any real profits – over ₹500m last year. It's clearly obvious that we need to reinvest in THIS business. Let's expand and grow the profits. As usual, we're facing significant challenges from new competitors, so we really need the investment.'

Kajal: 'That's fine, but you've got limited growth potential. OK, we're not making much money now, but this market is too big to not pursue it properly. So we need the ₹250m to help catch up to the leaders, as they've got a big start. That way we can generate potential huge future profits.'

Babita: 'Kajal, you're too far behind the market leaders of Apple. I don't see the sense in throwing money into something where we will probably end up in a weak position anyway. Whereas our branding marketing consulting business is growing really well. We're consulting throughout the world and are considered to be one of the market leaders with our innovative practices. Sure, we've got lots of infrastructure costs, but this is going to be a future goldmine. We'll make more than the fast food chain in five years' time.'

Abhishek: 'We're in a tough market that's pretty flat at the moment. I know we only make a few million rupees a year, which is small time for the rest of you. But it's a big market, and we could use the investment to somehow improve our position.'

Questions

- a. How would you classify each of IGL's business portfolios using the BCG matrix? (5)
- b. How would you allocate the ₹250m investment across the SBUs? (5)
- c. How useful did you find the BCG matrix in helping allocate the ₹250m investment? (5)

- Q.4.** When customers phone the bank's call center and inquire about a home loan they are always offered an appointment the mobile home loan salesperson (who will come out and visit them). If they are interested, the appointment is then immediately booked in the mobile lender's electronic diary.

Each day the mobile lender checks his electronic diary and goes to the scheduled appointment/s. However, the mobile lender has become very unhappy that the call center is making appointments with people who are not ready to buy yet (many just want information). He is complaining that the call center 'is wasting his time' and wants something done about it!

Questions

- a. Why is the salesperson unhappy in this situation? Who is at fault? (5)
- b. Would the call center staff be happy in always passing the sales inquiry to the salesperson? Why? (5)
- c. What would you recommend to improve this situation/practice? (5)

- Q.5.** Discuss the role of culture and other environmental elements in successful international market strategies. (15)

- Q.6.** Define what we mean by 'digital marketing' and compare and contrast the differing types of digital marketing activities available. (15)

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Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)

ADVANCES IN MICROBIOLOGY

Subject Code: PHDMB110

Time allotted: 3 Hours

Max Marks: 100

Note : Candidate has to attempt all questions.

- Q.1. Write in brief on all of the following:** **(2.5x10=25)**
- a. What is activated sludge?
 - b. Define Pathogenicity Islands.
 - c. What is Bioremediation?
 - d. What is Global warming?
 - e. What is Bio-deterioration?
 - f. Define cosmids.
 - g. What is microbial contamination? Enlist their sources.
 - h. What are cloning vectors?
 - i. What are PGPRs?
 - j. Name the two microorganisms which are used for the industrial production of citric acid and lactic acid.
- Q.2. Write short notes on bio-fertilizers, myco-pesticides, and bio-pesticides.** **(15)**
- Q.3. Explain the various methods that are used for testing the susceptibility of drugs.** **(15)**
- Q.4. What are xenobiotics? What are the six major groups of xenobiotics? Explain the biodegradation of xenobiotics.** **(15)**
- Q.5. What are vaccines? Classify vaccines. Explain briefly about synthetic peptide vaccines and multivalent subunit vaccines.** **(15)**
- Q.6. Write short notes on cDNA library, probe labelling and plasmids.** **(15)**

Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)
ADVANCES IN NURSING
Subject Code: PHDNS110

Time allotted: 3 Hours

Max Marks: 100

Note : Candidate has to attempt all questions.

- Q.1. Write in brief on all of the following:** **(2.5x10=25)**
- a. Differentiate between a Profession and an Occupation.
 - b. Define discipline of Nursing.
 - c. Explain four concepts of Grand Nursing theories.
 - d. Name four Leadership styles with example.
 - e. Mention the advantages of MCQs.
 - f. Enlist the disadvantages of lecture method?
 - g. State the purposes of writing lesson plan.
 - h. What are the key elements of micro-teaching?
 - i. Explain the role of teacher as Facilitator.
 - j. Give an example of changing Teacher Oriented Education to Student Learning Environment.
- Q.2. Nursing is both a Discipline and a Practice Profession.** **(10+5=15)**
- a. Compare and Contrast both of these concepts.
 - b. Give concrete examples of each concept.
- Q.3. You have realized that a number of your new Diploma and B.Sc Nursing students are slow learners.** **(6+9=15)**
- a. What proactive steps will you take to eventually integrate these students into the batch of their classmates?
 - b. How would you prepare your faculty for remedial teaching of these students?
- Q.4. You are the In Charge of the Collaboration Model in Nursing with your Hospital and Community.** **(7+8=15)**
 The Nursing Superintendent has requested your help in setting up an Audit committee to evaluate selected Nursing Procedures.
- a. Name and explain as many steps as you can in the development and implementation of an audit committee in the clinical realm of the hospital and or community.
 - b. The report of the Audit committee has revealed that serious problems are occurring as both staff and students are implementing procedures improperly.
 - i. Name some of the causes why you feel these problems are occurring?
 - ii. What steps will you take to try to remedy these problems?
- Q.5. Evaluation Research is considered by many Investigators as a Science in itself. Give examples to explain** **(15)**
 how you will apply Donabedian's Structure- Process- Outcome model of Evaluation Research in solving a selected problem that you chose to evaluate in Clinical setting.
- Q.6. Discuss Current advances in Nursing Education and Nursing Practice taking examples from your chosen** **(15)**
 Discipline.

Ph.D. COURSE WORK EXAMINATION (JANUARY, 2019)
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 all sections and questions.

SECTION - A (RESEARCH METHODOLOGY)

- Q.1.** Define Research? What is purpose of doing research? Define Research process and its basic steps? (4+6+10)
- Q.2.** Draw a flow chart showing various steps of a RCT. What do you understand by randomization? Compare and contrast between restricted and stratified randomization. (8+4+8)
- Q.3.** How is the processing and the analysis of the thesis data done? Mention the processing operations and statistical measures for analysis. (10+10)

SECTION - B (QUANTITATIVE TECHNIQUES)

- Q.4.** Briefly describe the different non-parametric tests, explaining the significance of each such test. (10)
- Q.5.** Suppose you conducted a drug trial on a group of animals and you hypothesized that the animals receiving the drug would show increased heart rates compared to those that did not receive the drug. You conduct the study and collect the following data:

	Heart Rate Increased	No Increase in Heart Rate	Total
Treated	36	14	50
Not treated	30	25	55
Total	66	39	105

Is there any statistically significant difference in the proportion of animals whose heart rate was increased? At 5% level of significance with 1degree of freedom the tabulated value is 3.841. (10)

SECTION - C (COMPUTER APPLICATIONS)

- Q.6.** Describe in detail conceptually how Ms Excel will perform data validation? How can you apply multiple data validation in one cell in an Ms Excel worksheet? Give an example with a MS Excel worksheet real time data? (10)
- Q.7.** Explain in detail conceptually how the MS Excel Pivot Table functions? Give a real time data example with an Ms excel worksheet. How to create a Pivot table and Graph for a table or ranges of cells? (10)
