

Savitribai Phule University Pune
Department of Management Sciences
MBA-BT Semester IV
Semester End Exams April 2015
404- Emerging Trends in Biotechnology

Maximum Marks: 50

Time: 3Hrs

Instructions: Q5 is compulsory (Marks 20)
Answer any 2 from Q1-Q4 (15 marks each)

Q1. Write short notes on any three

- a) Tissue engineered food
- b) Factors influencing absorption of drug in the GI tract
- c) Limitations of DNA microarray
- d) Challenges in Gene Therapy
- e) Skin regeneration- A success story

Q2. Explain how DNA microarray technique has increased the speed of gene discovery with the help of at least two applications.

Q3. A Pharmaceutical company is interested in developing a drug for a rare form of eye cancer. How can we use Proteomics technology for this purpose? Explain the method in detail, and list other applications for the same.

Q4. What are drug delivery systems? Explain TDDS in details, listing its advantages over the traditional methods. Discuss how the TDDS system will be the drivers for drug development for pediatric, geriatric and dementia patients.

Q5. <http://www.medicalnewstoday.com/articles> April 16, 2015.

In January 2015, researchers from Sanford-Burnham Medical Research Institute in La Jolla, CA, claimed that they have found a way to generate hair growth using human pluripotent stem cells. Dr. Glashofer believes such research moves us a step closer to finding effective hair loss treatments for both men and women. "Most recent groundbreaking hair research is attempting to define the biologic and genetic basis for certain types of hair loss. This obviously has value to both sexes," he told *MNT*. "Research attempting to utilize stem cells has broad implications for both hair loss treatments for men and woman and may have a role in treatment within the next decade."

- a. What are Stem Cells? List advantages and disadvantages of stem cells.
- b. What are the diseases that researchers and doctors should be focussing on for the use of stem cell therapy and why?
- c. Give your opinion about the use of stem cells for developing hair loss therapy, as written in the article.
- d. Should Stem cell technology be used for cosmetic and aesthetic purpose (commercial /beauty products)? Support your answer giving logical reasons