

Course No: BIPH 2315
**Course Title: Pharmaceutical
Biotechnology**
Date: 00/00/2018
No. of Questions: ()
Time: 2 hours
Using Calculator (No)

University of Palestine



**Final Exam For 2nd
Semester.
2017/2018
Total Grade:**

**Instructor Name: ___Dr.Akram
Atalla_____**
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

Question One:

1. What is IGF-1? (1Point)
2. Can HGH increase height in adults? (1Point)
3. Why does the pituitary over produce growth hormone? What causes acromegaly? (2Point)
4. What is the principle behind hybridoma technology? (3Point)
5. What is a monoclonal antibody? (1Point)
6. How does ex vivo gene therapy work? (2Point)

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7. Explain why growth hormone is approved for use in wasting associated with AIDS? (2Point)

8. How Hybrid cells are selected in HAT medium? (3Point)

9. What is an Epitope? (1Point)

10. Is the therapy with monoclonal antibody safe? Why? (2Point)

11. What is electroporation? (1Point)

12. List 2 advantages and 2 disadvantages associated with retrovirus and adenovirus the Vectors used in clinical trials for cancer therapy? (2Point)

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13. What are the primary chemical and physical stability issues with human insulin formulations? (2Point)

14. what are the difference between the Gene Therapy and Conventional Therapy(2Point)

Question Two:

1. Which insulins should never be mixed?

- A. Rapid-acting insulins
- B. Short-acting insulins
- C. Intermediate-acting insulins
- D. Long-acting insulins

2. What is the onset, peak, and duration of NPH insulin?

- A. 2-4 hrs, 4-12 hrs, 16-20 hrs
- B. 1-2 hrs, 2-8 hrs, 14-24 hrs
- C. 3-4 hrs, 6-12 hrs, 18-24 hrs
- D. 2-4 hrs, 4-6 hrs, 16-20 hrs

3. What is in general not a risk factor in gene therapy using adenoviruses?

- A. Insertional mutagenesis
- B. Overexpression leading to an immune reaction
- C. Transient expression
- D. Low pathogenicity

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4. In endogenous antigen processing, foreign antigen is presented to which type of cells?

- A. B cells
- B. Helper T cells
- C. Cytotoxic T cells
- D. Red blood cells

**5. Which of the following statements regarding the hypothalamic hormones are correct?
Please select all that apply.**

- a) Hypothalamic releasing hormones are synthesized and secreted by neurons
- b) Blood flows from the anterior pituitary to the hypothalamus in portal vessels
- c) The hypothalamic releasing hormones reach the general circulation in significant amounts
- e) Growth hormone secretion is regulated by GHRH

6. Which of the following is incorrect?

- A. MAbs can be used to diagnose or treat diseases
- B. MAbs can be used in tumor scanning
- C. MAbs can be used in cancer diagnosis
- D. MAbs can not be used in such non-infectious diseases as those of endocrine system

7. The cells in the anterior pituitary that produce GH are called what?

- A. Beta cells
- B. Kinotrophs
- C. Parvocellular neurons
- D. Somatotrophs

8. What is the primary pathway activated by binding of GHRH to GHRHR?

- A. MAGUK
- B. MAPK/Erk
- C. Phospholipase C
- D. Protein kinase C

9. In monoclonal antibody technology, tumor cells that can replicate endlessly are fused with mammalian . cells that produce an antibody. The result of this cell fusion is a

- A. hybridoma
- B. myeloma
- C. natural killer cell
- D. lymphoblast

10. The primary sites for binding to the hGH receptor are determined by

- A. Helix 2 and Helix 4
- B. Helix 4 and Helix 1
- C. Helix 3 and Helix 1
- D. Helix 3 and Helix 2

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11. One of the following is DNA virus

- A. Murine leukemia virus (MuLV)
- B. Adeno-associated viruses (AAV)
- C. Human T-cell lymphotropic viruses (HTLV)
- D. Human immunodeficiency viruses (HIV)

12. Which of the following cells survive in HAT medium

- a) B-cells)
- b) Myeloma cells)
- c) Hybrid cells)
- d) None of these)

13. NPH insulin is prepared by cocrystallization insulin with

- a) Glutamine)
- b) Protamine)
- c) Histamine)
- d) Albumin)

14. Which deficiency was attempted to be treated in the first patient who died during a gene therapy experiment in 1999?

- A) Chronic Granulomatous Disorder
- B) Ornithine transcarbamylase
- C) Duchenne muscular dystrophy
- D) Adenosine deaminase deficiency

15. Which of the following viral vectors are most often used in clinical gene therapy trials?

- A) Lentiviral vectors
- B) Vaccinia vectors
- C) Adeno-associated viral vectors
- D) Adenoviral vectors

16. What is in general not a risk factor in gene therapy using adenoviruses?

- A) Insertional mutagenesis
- B) Overexpression leading to an immune reaction
- C) Generation of replication competent adenoviruses
- D) Toxicity due to the administered viral dose

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17. What is antisense technology?

- a) A cell displaying a foreign antigen used for synthesis of antigens
- b) Production of somaclonal variants in tissue cultures)
- c) When a piece of RNA that is complementary in sequence is used to stop expression of a specific gene)
- d) RNA polymerase producing DNA)

18. cDNA version of a gene includes

- A) codons for a mature mRNA
- B) sequences corresponding to promoters
- C) sequences corresponding to introns
- D) both b and c

19. Endogenous hGH, contained an N-terminal

- A. Methionine
- B. Phenylalanine
- C. Alanine
- D. Tyrosine

20. A defect in a gene for the LDL receptor or receptor function causes

- A. Hypercholesterolemia
- B. Hypocholesterolemia
- C. Hyperammoniaemia
- D. Hypoammoniaemia

21. Lantus®, a long-acting insulin formulation which is formulated at

- A. pH 2
- B. pH 4
- C. pH 8
- D. pH 6

22. Growth hormone act as

- A. Anabolic
- B. All of these
- C. Diabetogenic
- D. Lipolytic

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23. Which of the following viral vectors are most often used in clinical gene therapy trials?

- A) Lentiviral vectors
- B) Vaccinia vectors
- C) Adeno-associated viral vectors
- D) Adenoviral vectors

24. Liquid formulations of rhGH contain excipients such as

- A. Mannitol or sodium chloride
- B. All of these
- C. Phenol or benzyl alcohol
- D. Poloxamer 188 or polysorbate 20

25. A sudden change in the sequence of DNA or RNA, is called

- A.Change
- B.Alteration
- C.Mutation
- D. Transduction

End of Questions
Good Luck