

**Molecular biology**

**Final**

**دفعه رّوح**

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الطّب الجراحة  
لجنة

**1) Separation of homologous DNA fragments according to length after restriction digestion is, select one:**

- a) RFLP**
- b) GEL ELECTROPHORESIS**
- c) Conventional PCR**
- d) real time PCR**
- e) Gene cloning**

**Answer: A**

**2) what is the order of the enzymes that are involved in base pair excision repair, select one:**

- a) DNA glycosylase, an AP endonuclease, a DNA polymerase, and a DNA ligase**
- b) RNA glycosylase, an AP endonuclease, an RNA polymerase, and a DNA ligase**
- c) DNA glycosylase, DNA polymerase, an AP endonuclease, and a DNA ligase**
- d) an AP endonuclease, DNA glycosylase, a DNA polymerase, and a DNA ligase**
- e) DNA glycosylase, an AP endonuclease, and a DNA ligase, a DNA polymerase**

**Answer: A**

**3) What step of transcription involves a formation of a lariat, select one:**

- a) Initiation**
- b) Splicing**
- c) Termination**
- d) Initiation + splicing**
- e) termination + splicing**

**Answer: B**

**4) a cluster of related genes controlled by a single promoter and transcribed into one mRNA strand (bicistronicity or polycistronic) is called, select one:**

- a) Enhancers**
- b) Activators**
- c) Operon**
- d) CAP protein**
- e) repressor**

**Answer: C**

**5) All of the followings are functions of DNA except, select one:**

- a) Carrying genetic material**
- b) Mutation**
- c) Transporting genetic information to next generation**
- d) DNA profiling**
- e) DNA contains the instructions needed for an organism to develop**

**Answer: B**

**6) All of the following is true regarding the central dogma of molecular biology except, select one:**

- a) protein → RNA**
- b) DNA → DNA**
- c) DNA → RNA**
- d) RNA → protein**
- e) DNA → protein**

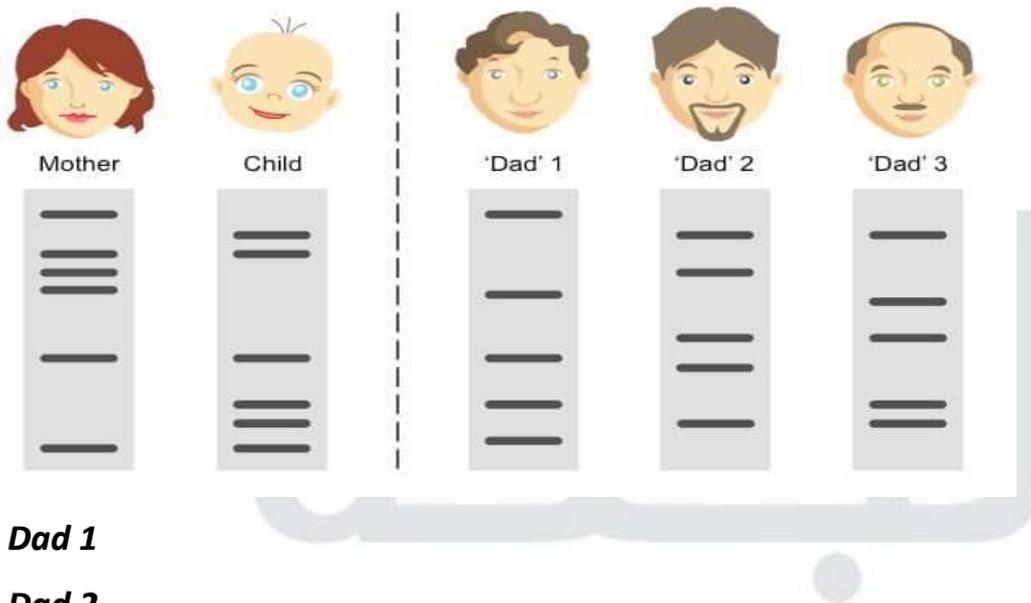
**Answer: A**

7) All of the following is true in regards of ribosomes in eukaryotes except, select one:

- a) The Small subunit consists of 18 S
- b) The Large subunit consist of 5S, 5.8S, 28S
- c) The Small subunit consist if 16S

**Answer: C**

8) who is the father of the child, select one:



- a) Dad 1
- b) Dad 2
- c) Dad 3
- d) None of them
- e) Impossible to know

**Answer: C**

9) A codon is changed to a termination codon, this mutation is called, select one:

- a) Nonsense mutation
- b) Missense mutation
- c) silent
- d) frame shift
- e) none of the above

**Answer: A**

10) Frame shift mutation occurs when, select one:

- a) insertion of 6 nucleotides
- b) insertion of 9 nucleotides
- c) insertion of 15 nucleotides
- d) deletion of 3 nucleotides
- e) insertion of two nucleotides

**Answer: E**

11) which of the following is mutated in most of the epithelial cancers, select one:

- a) adherins
- b) desmosomes
- c) cell-matrix junctions
- d) cadherins
- e) none of the above

**Answer: D**

**12) what's wrong regarding topoisomerase, select one:**

- A) cuts the DNA double strand to relieve stress**
- B) found in semi-conservative replication only**

**Answer: A**

**13) insertion of bacteria with the desired gene into the body in gene therapy (using bacteria as a vector) has problems because, select one:**

- A) bacterial genetic code differs from that of humans**
- B) bacteria do not splice introns found in the human gene**
- C) prokaryotes don't have nuclear membrane**

**Answer: B**

**14) gene therapy has difficulties in application such as, select one:**

- A) transferred genes can't be controlled regularly**
- B) cells that receive the gene lose their ability to replicate**

**Answer: A**

**15) a feature found in embryonic stem cells and not in adult stem cells, select one:**

- A) ability to divide indefinitely**
- B) differentiate into many types**
- C) give most tissue cells they are found in**

**Answer: B**

**16)the first bond that gets cleaved in BER is, select one:**

- A) sugar and base**
- B) base and phosphate**
- C) complementary bases**
- D) sequenced bases**

**Answer: A**

**17)the difference between leading and lagging strands, select one:**

- A) continuous sealing of growing strand by ligase**
- B) continuous separation of DNA in replication fork by helicase**
- C) RNA primer synthesis**

**Answer: A**

**18)there is 23% adenine in a strand of DNA, how much guanine is in it:**

- a)27%**
- b)23%**
- c)77%**
- d)46%**
- e)57%**

**Answer: A**

**19)a point mutation causing change from purine to purine or from pyrimidine to pyrimidine is called, select one:**

- a) Transition**
- b) transversion**
- c)frame shift**
- d)insertion**
- e) deletion**

**Answer: A**

20) chose the wrong statement regarding aminoacyl tRNA synthetase, select one:

- A) attach to 3' OH of tRNA
- B) degradation of ATP to AMP and PP
- C) binds any tRNA to specific amino acid
- D) each one binds to specific amino acid

**Answer: C**

21) wobble hypothesis, select one:

- A) a codon may bind to more than one tRNA
- B) one tRNA may bind to more than one codon

**Answer: B**

22) Which of the following is incorrect about enhancer, select one:

- A) binds activators
- B) increases the expression of certain genes
- C) is a specific regulatory factor
- D) is located away from the intended gene

**Answer: C**

قال الحسن:

لو أنّ ابن آدم كلّما قال أصاب، وكلّما عمل أحسن، أو شكّ أن يجنّ من العُجب.  
لطائف المعارف ص ١٨ .

بالتوفيق، ولا تنسونا من صالح دعائكم  
#لجنة\_الطب\_والجراحة