

# Q of final exam in 1425 – 1426 h ( P. 1)

## PART I\ One Best Response

- 1- The following ultraviolet damage DNA in skin ... :
- a. DNA polymerase I recognizes the damaged area
  - b. Purine dimmers are formed
  - c. Both strands are cleaved
  - d. A specific exonuclease removes the damaged ...
  - e. DNA polymerase  $\beta$  splices the newly synthesized ... ✓
- 2- The transcription of following sequence of DNA strand 5'TAGA'3 is :
- a. 5'AUCU'3
  - b. 5'TCTA'3
  - c. 5'UCUA'3 ✓
  - d. 5'ATCT'3
  - e. 5'AGAU'3
- 3- Okazaki fragment is :
- a. A fragment of parental DNA
  - b. Double strands
  - c. A covalently-attached RNA & DNA ✓
  - d. An RNA/DNA hybrid
  - e. Complementary to a segment of leading ...
- 4- All the following eukaryotic DNA polymerase are found in n ...
- a. DNA polymerase  $\alpha$
  - b. DNA polymerase  $\beta$
  - c. DNA polymerase  $\gamma$  ✓
  - d. DNA polymerase  $\delta$
  - e. DNA polymerase  $\epsilon$
- 5- Regarding ds DNA :
- a. All the hydroxyl group of pentoses are involved in phosphorylation ...
  - b. Bases are parallel to the axis of the helix
  - c. Bases of one strand are similar to the bases of the other strand
  - d. The 5'end of one strand is paired with the 3'end of the opposite strand ✓
  - e. The number of adenine must equal to the number of guanine

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- 6- Concerning prokaryotic transcription :**
- a. Initiation requires Rho ( $\rho$ ) protein
  - b. There is a poly-A tail at 3' end of RNA produced
  - c. An RNA primer is necessary for the beginning of transcription
  - d. Sigma ( $\sigma$ ) factor enables RNA polymerase to recognize the ... ✓
  - e. The polymerizing activity of RNA polymerase occur in 3' end
- 7- All statements about tRNA are true EXCEPT :**
- a. Contain Thymine
  - b. It is charged by covalent attachment to specific amino acid (a.a)
  - c. There is at least one specific tRNA for each amino acid
  - d. It forms 5% of total RNA inside the cell ✓
  - e. It acts as an adaptor molecule during protein translation
- 8- Which of the following correctly describes the mammalian mRNA:**
- a. The same mRNA can be transcribed from both DNA strands
  - b. They are normally double-strands
  - c. Their content of A=U
  - d. The ratio of ribose to purine =1
  - e. They have net -ve charge at physiologic PH ✓
- 9- DNA palindrome :**
- a. It is a region of ds DNA in which one strand has a complement opposite strand when read in the same direction
  - b. It is important for  $\rho$ -independent termination of transcription ✓
  - c. Has a built in RNA-dependant ATPase activity
  - d. It forms a DNA secondary structure (hairpin)
  - e. It is the site for replication fork formation during DNA synthesis
- 10- All statements regarding Covalent modification by phosphorylation protein are true EXCEPT :**
- a. It is catalyzed by family of kinases
  - b. It occurs on hydroxyl group of hydroxyproline & hydroxylysine ✓
  - c. It is a reversible process
  - d. It may lead to activation or inactivation of a specific protein
  - e. Phosphorylation of metabolic enzymes is usually under hormonal ...
- 11- GTP is required for one of the following steps during protein biosynthesis :**
- a. Amino acid attachment to corresponding tRNA
  - b. Attachment of ribosome to endoplasmic reticulum
  - c. Translocation & movement of peptidyl-tRNA into the P-site ✓
  - d. Attachment of mRNA to the ribosome
  - e. Post-translational proteolytic ...?? (maybe  $\rightarrow$  clearance :-/ )



- 12- Which of the following substance interferes with the movement of ... translocation during protein biosynthesis :
- a. Chloramphenicol
  - b. Puromycin
  - c. Erythromycin ✓
  - d. Streptomycin
  - e. Acyclovir
- 13- which one of the following binds to DNA promoter :
- a. Primase
  - b. Helicase
  - c. RNA polymerase ✓
  - d. Histones
  - e. DNA polymerase
- 14- Regarding genetic codon in human, all true EXCEPT :
- a. there is 3 stop codons
  - b. It is commaless (no punctuation)
  - c. The nucleotide on 3' end of the codon has the least specificity for ...
  - d. Specific codon always codes for one amino acid (specificity)
  - e. Non-sense mutation indicates that the codon containing the changed ... different amino acid ✓

## PART II\ True & False

- 1- The eukaryotic mRNA is usually polycistronic. F
- 2- DNA ligase is required for DNA replication of the lagging, but NOT leading. F
- 3- The double bonds between comp... in addition to stacking forces between bases of the same strand. F
- 4- During translation, peptidyl transferase is an RNA that has catalytic activity. T
- 5- At PH 8.6 most of the plasma protein carry -ve charge. F



## PART III\ STEM

### 1- Concerning the cellular localization of RNA ...

- |                    |   |
|--------------------|---|
| a. Nucleus         | T |
| b. Mitochondria    | T |
| c. Ribosome        | T |
| d. Golgi apparatus | F |

### 2- Post-translation modification ...

- |                    |   |
|--------------------|---|
| a. Glycosylation   | T |
| b. Hydroxylation   | T |
| c. Trimming        | T |
| d. Phosphorylation | T |

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الرجاء عدم إحضار الأسئلة للكلية

... ولا تنسونا من دعائكم ...

أبو عمر

Dr.ytk@w.cn

