

Biology 101 final exam 023

Q1: The recycle of the cells organisms is called:

- Autophagy
- endocytosis
- exocytosis
- A & C

Answer: Autophagy

Q2:What is the nature of the SRP (Signal Recognition Particle)?

- Protein-DNA complex
- Protein-RNA complex
- Protein-lipid complex
- Protein-carbohydrate complex

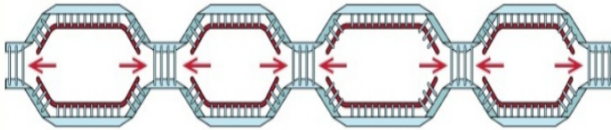
Answer: -protein-RNA complex

Q3:Which of the following stages/steps of translation require energy:

- elongation
- termination
- aminoacyl tRNA formation
- formation of translation initiation complex
- all of them

Answer:aminoacyl tRNA formation

Q4:



How many replication fork ?

- 2
- 3
- 4
- 8

Answer:8

Q5:Where in the chloroplast is a high concentration of protons expected?

- Stroma
- Thylakoid space
- Inner membrane
- Outer membrane

Answer:thylakoid space

Q6: Which of the following processes does not occur in linear photophosphorylation?

- O₂ is released
- NADPH is oxidized
- NADPH is reduced
- ATP is synthesized

Answer: NADPH is oxidized

Q7: Which of the following processes does not occur in the Calvin cycle?

- CO₂ fixation
- O₂ is released
- Regeneration of CO₂ acceptor
- Reduction of PGA

Answer: O₂ is released

Q8: Which of the following is a gene product?

- RNA & lipids
- lipids & proteins
- RNA & proteins

Answer: RNA & proteins

Q9: What is the process of synthesizing RNA from DNA?

- Translation
- Transcription
- Replication
- Reverse transcription

Answer: transcription

Q10: Which molecules can be used in post translation modification?

- sugar
- lipids
- phosphate group
- B&C
- A,B&C

Answer: A,B&C

Q11: What is the name of the sugar that result from Calvin cycle

- sucrose
- glucose
- G3P
- pyrovalate

ANSWER: G3P

Q12: Rubisco, the enzyme used in the reaction of carbon fixation, is:

- RUBP carboxylase-oxygenase
- Calvinase
- Photosynthetic carboxylase
- Carbon dioxide ligase

Answer: RUBP carboxylase-oxygenase

Q13: How many CO₂ is released per glucose molecule in Pyruvate oxidation?

- 0
- 1
- 2
- 3

Answer: 2

Q14: What is the net number of ATP per glucose molecule produced in glycolysis?

- 1
- 2
- 3
- 4

Answer: 2

Q15: Erwin Chargaff postulated that:

- the base composition is different between species
- the A and T are roughly equal, and so C and G
- the base composition is the same between species

-A & B

-B & C

Answer: B & C

Q16: What does it mean when a codon is described as redundant?

- More than one codon codes for the same amino acid
- The same codon can code for more than one amino acid
- Each codon codes for a unique amino acid
- Codons are non-functional in protein synthesis

Answer: More than one codon codes for the same amino acid

Q17: What molecules are utilized during the termination of translation and how many molecules are used?

- 1 ATP
- 2 ATP
- 1 GTP
- 2 GTP

Answer : 2GTP

Q18:Where do fermentation and Glycolysis occur ?

- cytosol
- mitochondria matrix
- chloroplast thylakoid

Answer:cytosol

Q19:Which of the following is not a carbohydrates

- glucose
- glycine
- glycogen
- chitin

Answer: glycine

Q20:What type of bonds are present between alpha helices and beta sheets?

- Hydrogen bonds
- Ionic bonds
- Covalent bonds
- Van der Waals interactions

Answer: hydrogen bond

Q21:Which bonds determine the 3D shape of tRNA?

- Hydrogen bonds
- Ionic bonds
- Covalent bonds
- Disulfide bonds

Answer: hydrogen bond

Q22How many ATP are produced after glycolysis?

- 0 ATP
- 2 ATP
- 4 ATP
- 6 ATP

Answer: 2 ATP

Q23:Where are cristae found?

- Mitochondria
- Endoplasmic reticulum
- Golgi apparatus
- Nucleus

Answer:Mitochondria

Q24: Where does translation occur in eukaryotes?

- Nucleus
- cytosol
- Golgi apparatus
- Endoplasmic reticulum

Answer: cytosol

Q25: When a DNA strand separates into two DNA strands, what percentage of the resulting strands are parent strands?

- 0%
- 25%
- 50%
- 100%

answer: 50%

Q26 : Which components form the backbone of DNA molecules?

- Nitrogenous bases
- Sugar and phosphate groups
- Hydrogen bonds
- Deoxyribose sugar

Answer: Sugar and phosphate groups

Q27: Which component is not required for the initiation of the transcription complex?

- DNA template strand
- RNA polymerase enzyme
- Promoter region
- tRNA molecule

answer: tRNA molecule

Q28: Which enzyme catalyzes the fixation of CO₂ in the Calvin cycle?

- ATP synthase
- Rubisco
- DNA polymerase
- RNA polymerase

answer: Rubisco

Q29: Which enzyme catalyzes the reduction of NAD⁺ to NADH during cellular respiration?

- Mutase
- Enolase
- Dehydrogenase
- ATP synthase

answer: Dehydrogenase

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Q30:What is the source of hydrogen ions during the reduction of NAD⁺ to NADH during glycolysis?

- a) Pyruvate
- b) Malate
- c) G3P (Glyceraldehyde-3-phosphate)
- d) Acetyl-CoA

answer: G3P

Q31:Which statement is true about cholesterol?

- Only found in plant membranes
- Locates between the phospholipids in the cell membrane
- Can be found in both plant and animal membranes
- Acts as an enzyme in membrane synthesis

answer: Locates between the phospholipids in the cell membrane

Q32: Which part of the cytoskeleton is hollow?

- Actin filaments
- Intermediate filaments
- Microtubules
- Myosin filaments

answer: Microtubules

Q33: What is found on the 5' side of one DNA chain?

- Nitrogenous base
- Sugar molecule
- Phosphate group
- Hydrogen bond

answer:Phosphate group

Q34:What is the direct sugar product of Calvin cycle?

- Glucos
- Glactose
- Amylose
- G3p
- NADH

Answer:G3p

Q35 What is the number of nucleotide pairs in a coded region that encodes for 120 amino acids?

- 120 pairs
- 240 pairs
- 360 pairs
- 480 pairs

Answer: 360 pairs

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Q36: Which of the following is present in the proofreading process?

- topoisomerase
- DNA polymerase
- primase
- helicase

Answer:DNA polymerase

Q37:Which enzyme catalyzes the conversion of Fructose 6-phosphate to Fructose 1,6-bisphosphate?

- PFK
- ATP synthase
- Hexokinase
- Glucose-6-phosphatase

Answer:PFK

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