請愛用"repost"謝謝

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1.Which of the following statement is the most precise modern definition

of gene?

(A)a segment of genetic material that determines one phenotype

(B)a segmemt of genetic material that codes for one enzyme

(C)a segment of genetic material that codes for one polypeptide

(D)a segment of genetic material that codes for one polypeptide

or RNA product

ANS:(D)

2.The fundamental repeating unit of organization in an

eukaryotic chromosome is:

(A)the centrome

(B)the microsome

(C)the nucleosome

(D)telomere

ANS:(C)

3.The linking number of a closed-circular, double-stranded DNA mulecule may

be changed by:

(A)underwind without the breaking of any phosphodiester bonds.

(B)supercoiling without the breaking of any phosphodiester bonds.

(C)breaking the hydrogen bonds in the DNA.

(D)breaking one of the strands, unwinding or rewinding the DNA, then

rejoining the strands.

Ans:(D)

4.The superhelical density of a closed circular DNA, which is 1050 bp and has

the linking number of 107, is about?

(A)-0.01 (B)-0.7 (C)0.07 (D)10.7

6.E.coli DNA Pol1, but not Pol2, Pol3 can conduct "nick translation"

synthesis of DNA. This is because Pol1 possesses?

(A) 3'to 5' exonuclease

(B) 5'to 3' exonuclease

(C) endonuclease

(D) polymerase activity

8. From our current understanding of all the known DNA polymerases, the DNA

chain elongation at a replication fork can not be:

(A)continuous on the leading strand ,but discontinuous in the lagging strand

(B)discontinuous on both strands,

(C)continuous on both strands,

(D)all of above

Ans:(C)

9. What kind of DNA damage will occur if human cells are treated with type II

topoisomerase inhibitor?

(A) base damage

(B) single-strand breaks

(C) double-strand breaks

(D) AP sites

10. Which protein is involved in the initiation of DNA replication

process in E.coli cells?

(A) DnaA

(B) DnaB

(C) primase

(D) SSB

Ans:(A)

12.Which of the following statements is incorrect?

A.RNA may be used as primer for DNA synthesis

B.DNA chain elongation is 3' to 5'

C.DNA polymerase III is the replicating enzyme used in E.coli

D.primers,DNA template and all 4 dNTPs are required for DNA synthesis

Ans:(B)

14.Damaged base in DNA can be removed by specific glycosylase to produce:

A.a break or nick in DNA backbone

B.an AP site

C.a double-strand break

D.ATP, which is subsequently

Ans:(B)

15.Which protein can catalyze the pairing of a single-strand DNA molecule with

a complementary region of a duplex DNA molecule:

A.RuvAB

B.RecBCD

C.RecA

D.SSB

Ans:(C)

17.Recombination between two inverted repeats in the same DNA molecule can

generate:

(A)inversion of the DNA fragment flanked by the repeats

(B)deletion of the DNA fragment flanked by the repeats

(C)duplication of the DNA fragment

(D)none of above

ANS:(A)

18.Which of the following DNA repair process is used to repair the presence

of uracil in the DNA?

(A)nucleotide excision repair

(B)mismatch repair

(C)methyl transferase

(D)base excision repair

ANS:(D)

19.What type of DNA damages are recognized and repaired by nucleotid-excision

repair system?

(A)DNA double-strand breaks

(B)Abnormal bases

(C)Lesions that cause large structure changes

(D)AP sites

ANS:(C)

21.The Ames test is used to

(a)detect the bacterial viruses

(b)determine the rate of DNA replication

(c)examine the potency of antibiotics

(d)measure the mutagenic effects of various chemical compounds

22.The lingking number of a closed-circular, double-stranded DNA mulecule may

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rejoining the strands.

Ans:(D)

趙清貴

單選題

2.Which enzyme synthesizes rRNA in human cell?

(A)mRNA ribonuclease

(B)RNA polymerase I

(C)RNA polymerase Ⅱ

(D)RNA polymerase Ⅲ

Ans：(B)

7.Which is NOT correct about RNA splicing?

(A) Group Ⅲ(pre-mRNA) involves spliceosome

(B) Self-splicing involves ribozyme activity

(C) Group Ⅰ involves outside guanosine 3'OH as nucleophille

(D) Group Ⅱ involves integral adenosine 3'OH as nucleophile

ANS: (D)

8.Which statement is correct about tRNA?

(A) CCA at 3'end is not encoded by tRNA gene

(B) CCA at 3'end appears in primary tRNA

(C) its anticodon matches with codon on mRNA

(D) it carries specific amino acid by covalent bonding at 5'end

ANS: (A)

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Ans: (D)

10.Which factor is used during initiation of protein synthesis?

(A)sigma (B)EF-Tu (C)IF-I (D) EF-G

ANS: (C)

13.Which is not correct about ubiquitin protein degradation?

(A) Ligation of ubiquitin is required

(B) Protease is required

(C) 3 enzyme acitivities is required

(D) Lys 比 Met 在N端來的穩定 (這個選項我忘了=口= 麻煩另一位背這題的了QQ)

14.Which restriction endonuclease opened DNA end is unliked to the ligand

to PvuII opened DNA?(reffering to the table 29-2)

(A)BamHI (B)EcoRV (C)PvuII (D)HaeIII

ANS:(A)

問答題

15.Operon hypothesis is proposed to the corrdinate regulation of related

metabolism.Please fill the most relative answer from the pool:

pool:[arac-arabinose、lactose、operator、CRP、trp leader sequence、inducer

、tryptophan]

attenuator ::( Trp leader sequence )

regulon ::( CRP )

suppressor ::( operator )

補充：

inducer　 ::( IPTG )

repressor ::( operon )

16.Codon degeneracy can be explained by the wobble hypothesis. Answer the

following by referring to attached tables for genetic codons and anticodon

wobble base:

(3)寫出此胺基酸序列 Met-Phe-Trp 對應的2種mRNA codon

(1)AUGCCGAAGUUC first reading frame 所讀出的胺基酸序列

(2)AUGCUGAGGUUC second reading frame 所讀出的胺基酸序列

(4)寫出對應tRNA anticodon GGA 的2個mRNA codon

(5)以上兩個codon所攜帶的胺基酸為何

(6)任意寫出對應tRNA anticodon IGC 的2個mRNA codon