

BIOLOGY

BOOKS - SHARAM PUBLICATION

MOLECULAR BASIS OF INHERITANCE

Exercise

1. Who did transformation experiments using strains of Diplococcus preumoniae?

A. Griffith
B. Meischer
C. Mendel
D. Boveri
Answer:
Watch Video Solution
2. In Griffith experiment?
A. R strain of bacteria killed mice.

B. S strain of bacteria killed mice.

C. heat killed S strain killed mice.

D. a mixture of heat killed S strain and R strain of bacteria failed to kill the mice.

Answer:



Watch Video Solution

3. Which can hydrolyse DNA?

A. Protease

B. Ribonuclease

C. anylase

D. deoxyribonuclease

Answer:



Watch Video Solution

4. How many types of nitrogenous bases are present in nucleic acids?

A. 1

- B. 2
- C. 6
- D. 8



- 5. Which is the base absent in DNA?
 - A. adenine
 - B. cytosine

- C. uracil
- D. thymine



- 6. Which is the base absent is RNA?
 - A. adenine
 - B. guanine
 - C. cytosine

D. thymine

Answer:



Watch Video Solution

7. Which is a purine?

A. adenine

B. cytosine

C. uracil

D. thymine



Watch Video Solution

- 8. Nucleoside consists of
 - A. Nitrogenous base only
 - B. Sugar only
 - C. Sugar + nitrogenous base
 - D. Sugar + nitrogenous base + Phosphate

group



- 9. Nucleotides are phosphodiester bonds of
 - A. Sugars and Phosphates
 - B. Sugars, nitrogenous bonds and phosphates
 - C. Sugar + nitrogenous bases
 - D. Nitrogenous bases and phosphates



Watch Video Solution

10. Sugar molecule present in nucleic acids is known as

- A. Pentose
- B. hexose
- C. tetrose
- D. Ribose



Watch Video Solution

11. The sugar in RNA is

A. deoxyribose

B. glucose

C. ribose

D. Fructose

Answer:

12. Two complementary DNA chains are hold together by

A. covalent bonds

B. hydrogen bonds

C. ionic bonds

D. peptide bonds

Answer:



Watch Video Solution

13. DNA synthesis proceed in

- A. 5' to 3' direction
- B. 3' to 5' direction
- C. 2' to 5' direction
- D. 5' to 5' direction

Answer:



- A. Z DNA
- B. A DNA
- C. B DNA
- D. D DNA



15. RNA formed during protein synthesis is

A. rRNa

B. tRNA

C. sRNA

D. mRNA

Answer:



16. The most stable form of RNA is RNA (messenger, transfer, ribosomal)

- A. rRNA
- B. tRNA
- C. SnRNA
- D. mRNA

Answer:



17.	Which	of	the	following	has	clover	leaf
sha	pe?						

A. mRNA

B. tRNA

C. rR

D. sRNA

Answer:



18. DNA packaging is done by

- A. DNA+ histones
- B. DNA + acid proteins
- C. RNA + histones
- D. RNA + acid proteins

Answer:



19. In nucleosomes,	histones	form
----------------------------	----------	------

- A. pentamers
- B. hexamers
- C. octamers
- D. decamers



20.	Which	one	is	the	most	accepted	theory	of
DN	A replic	ation	ո?					

- A. dispersive
- B. semiconservative
- C. conservative
- D. hydrelytic



21. The	enzyme	reponsible	for	removing	DNA
strands	is				

- A. helicase
- B. ligase
- C. polymerase
- D. replicase



22. Which is the enzyme responsible for removal of RNA primers in DNA replication?

- A. RNA polymerase
- B. ligase
- C. helicase
- D. DNA polymerase

Answer:



23. Distance between base pairs in DNA is
Watch Video Solution
24. DNA synthesis from another molecule of DNA is called
Watch Video Solution
25. The enzyme referred to as Kornberg enzyme is
Watch Video Solution

26. Enzyme that forms short primers are called____



Watch Video Solution

27. The enzyme which joins Okazaki fragments to form a continuous DNA molecule is?



28. Enzyme that relieves supercoiling is
Watch Video Solution

29. The DNA double helix uniwinding is caused by _____ enzyme.



30. The enzyme that catalyses the replication of DNA.

- A. DNA dependent RNA polymerase
- B. RNA dependent RNA polymerase
- C. Rna dependent DNA. Polymerase
- D. DNA dependent DNA polymerase



Watch Video Solution

31. Which one is not a termination codon?

A. UGA

B. UAA
C. UAG
D. AUG
Answer:
Watch Video Solution

32. RNA dependent DNA synthesis is called



33. Which one is the initiation codon?
A. UGA
B. AUG
C. UAG
D. UAA
Answer:
Watch Video Solution

34. The number of hydrogen bonds between adenine and thymine molecule are



Watch Video Solution

35. Fill in the blank: The gene which synthesizes a repressor protein is _____.

A. promoter

B. regulator

C. operator

D. structural

Answer:



Watch Video Solution

36. RNA serves an important role in the synthesis of _____

A. Proteins

B. Carbohdrates

C. Fat

D. Aminoacid

Answer:



Watch Video Solution

37. DNA strand are antiparallel because of _____ bonds.

A. disulphide

B. phosphodiester

C. Peptide

D. hydrogen

Answer:



Watch Video Solution

38. In split genes coding sequences are

A. Introns

B. operous

C. Exons



Watch Video Solution

39. Codon is formed by _____ number of bases.

A. 1

B. 2

C. 3

D. 4

Answer:



Watch Video Solution

40. For coding amino acid, _____ number of codons are used

A. 20

B. 40

C. 61

D. 64

Answer:



Watch Video Solution

41. In Escherichia coli, lac operon is induced by_____

A. Prometer gene

B. Lactose

C. Operator gene

D. Regulator gene

Answer:



Watch Video Solution

42. The portion of DNA which contains information for an entire polypeptide is called

A. replicon

B. cistoron

- C. recon
- D. muton



Watch Video Solution

43. Fill In The blank: Transcription begins when binds to a promoter site.

- A. DNA polymerase
- B. RNA polymerase

- C. Helicase
- D. Gyrase



Watch Video Solution

44. Removal of introns and joining the exons in a definite order in a transcription unit is called:

A. Capping

- B. Tailing
- C. Transformation
- D. Splicing



Watch Video Solution

45. Copying of genetic information from one strand of DNA into RNA is

A. transcription

B. translation

C. tranduction

D. transformation

Answer:

- **46.** AUG codes for :
 - A. methionine
 - B. valine

C. histidine

D. proline

Answer:



Watch Video Solution

47. The central dogma of protein synthesis is:

A. DNA ightarrow DNA ightarrow protein

B. $RNA o DNA o Prote \in$

C. $DNA
ightarrow RNA
ightarrow prote \in$

D. $DNA
ightarrow prote \in \
ightarrow RNA$

Answer:



Watch Video Solution

48. Human genome project was launched in the year

A. 1953

B. 1981

C. 1990

D. 2003

Answer:



Watch Video Solution

49. How many genes approximaely are present in human genome?

A. 4600

B. 20500

C. 46500

D. 25000

Answer:



Watch Video Solution

50. Which is not applicable for DNA finger printing?

- A. Applied in forensic science
- B. used to determine parentage
- C. used in application of ethnic groups

D. determination of genetic code.

Answer:



Watch Video Solution

51. Which is responsible for expression of a trait?

A. Recon

B. Muton

C. Costron

D. Codon

Answer:



Watch Video Solution

52. DNA polymerase enzyme was discovered by

- A. Kornberg
- B. Nirenberg
- C. Khorana
- D. Ochoa



Watch Video Solution

53. Which one of the following codons are not recognised by any aminoacyl tRNA?

A. UAA

B. UAG

C. UGA

D. all of the above



Watch Video Solution

54. Fill In The blank: In protein synthesis, the codon used as a start signal is

- A. AVG
- B. CCA
- C. GVA
- D. GCA



Watch Video Solution

55. Correct the statements by changing the underlined words:

Although could not assign any role of DNA Morgan discovered DNA in 1869.



Coat of virulent strains of Diplococcus pneumoniae was rough which was used in Griffth's experiments.



Watch Video Solution

57. Correct the statements if required by changing the underlined words:

Griffith could discover the genetic principle.



Watch Video Solution

58. Correct the statements by changing the underlined words:

The enzyme protease can hydrolyse DNA.



Watch Video Solution

59. RNA contains ribose sugar.





Watch Video Solution

Pyrimidine thymine is present in RNA.

61. Correct the statements if required by changing the underlined words:

Adenine, thymine and uracil are pyrimidines.



DNA are found in the vacuoles, mitochondria and nuclei of green plant.



Watch Video Solution

63. Correct the statements if required by changing the underlined words:

Nitrogenous base and sugar form nucleotide.



Nucleotides joined by 3'-5' phosphodiester bonds form secondary structure of DNA.



Watch Video Solution

65. Correct the statements if required by changing the underlined words:

A/T and G/C ratio = 2.



The diameter of DNA molecule is $34A^{\,\circ}$.



Watch Video Solution

67. Correct the statements if required by changing the underlined words:

B-form DNA show left hand helix.



A DNA have zig-zag back bone.



Watch Video Solution

69. Correct the statements if required by changing the underlined words:

A DNA has 10 base pairs.



DNA transfers genetic information to vacuole through mRNA.



Watch Video Solution

71. Clover leaf model of tRNA was proposed by



The most accepted DNA replication method is dispersive.



Watch Video Solution

73. Correct the statements if required by changing the underlined words:

The most accepted DNA replication method is dispersive.



74. The enzyme that unwinds DNA molecule is ligase(true/false)



Watch Video Solution

75. State true or false. Template strand is otherwise called as lagging strand.



The DNA synthesis takes place in 2'-5' direction.



Watch Video Solution

77. Correct the statements if required by changing the underlined words:

B-form DNA show left hand helix.



Okazaki fragments are joined by gyrase enzyme.



Watch Video Solution

79. Correct the statements if required by changing the underlined words:

During G-phase of cell cycle, DNA replication takes place.



80. RNA dependent DNA synthesis is called



Watch Video Solution

81. Correct the statements if required by changing the underlined words:

DNA transfers genetic information to vacuole through mRNA.



Prinbow box is located on terminator sequence.



Watch Video Solution

83. Correct the statements if required by changing the underlined words:

At $37^{C} \circ \text{ about 20RNA nucloetides are aded}$ per second in transcription.



Eukaryotic chromosomes have coding and non-coding sequences. Noncoding sequences are introns.



The start codon is UGA.



Watch Video Solution

86. Correct the statements if required by changing the underlined words:

When more than one codons code for same amino acid, it is called commaless.



B-form DNA show left hand helix.



Watch Video Solution

88. Correct the statements if required by changing the underlined words:

The incoming tRNA in protein synthesis binds to F site.



Constitutive gene synthesizes enzyme in the presence of its substrate.



Watch Video Solution

90. Correct the statements if required by changing the underlined words:

In the inducicble system, the operator synthesizes active represr



Watch Video Solution

91. Correct the statements if required by changing the underlined words:

Lac y is responsible for synthesis of etagalactoridase.



Genome means haploid set of chromosomes in the gamete or each cell of a multicellular organism.



Watch Video Solution

93. Correct the statements if required by changing the underlined words:

DNA finger printing was developed by Khorana.



Watch Video Solution

94. Correct the statements if required by changing the underlined words:

In DNA finger printing the collected samples of DNA is compared by gel filtration.



95. Answer the following in one word only.

What was the name given to nucleic acid by Fredrick Meioscher?



Watch Video Solution

96. Answer the following in one word only.

What is called to strains of Pneumococcus that can kill mouse?



97. Answer the following in one word only.

The enzyme that hydrolyses RNA is



Watch Video Solution

98. Answer the following in one word only.

Avirulent strains of Pneumococcurs have colonies named.



What is the sugar of DNA called?



Watch Video Solution

100. Answer the following in one word only.

Adenine and guanine are grouped under.



Which is the nitrogenous base absent in DNA?



Watch Video Solution

102. Answer the following in one word only.

Which is the nitrogennous base absent in RNA.



What was the name given to nucleic acid by Fredrick Meioscher?



Watch Video Solution

104. Answer the following in one word only.

Nitrogen base + Sugar + phosphate can be substitued by the word.



105. Answer the following in one word only.

What type of DNA structure proposed by

Watson and Crick.



Watch Video Solution

106. Answer the following in one word only.

Which type of RNA does carry amino acid.



Who proposed clover leaf model of tRNA?



Watch Video Solution

108. Answer the following in one word only.

The protein associated with dNA in its packaging.



What is called to the precursor RNA of mRNA?



Watch Video Solution

110. Answer the following in one word only.

Which is the most accepted version of DNA replication.



At which stage of cell cycle does DNA replication occur?



Watch Video Solution

112. Answer the following in one word only.

What is the substitute word for parental strand?



113. Answer the following in one word only.

Along with his coworkers, who isolated polymerase I?



Watch Video Solution

114. Answer the following in one word only.

A small strand of DNA or RNA which is hydrogen bonded with template DNA is called.



The entire set of enzymes and protein factors involved in DNA replication is known as



Watch Video Solution

116. Answer the following in one word only.

The enzyme that unwinds DNA is



Which is the enzyme that synthesize primers?



Watch Video Solution

118. Answer the following in one word only.

The strand which replicates DNA continuously

from the replication fork in 5'-3' direction.



The strand tha synthesizes discontinuously and need a primer.



Watch Video Solution

120. Answer the following in one word only.

The small DNA gragments on lagging are called fragments of



The enzyme that joins Okazaki fragments?



Watch Video Solution

122. Answer the following in one word only.

The gene that replicates is called



What is called to the process of formation of RNA from DNA?



Watch Video Solution

124. Answer the following in one word only.

What is called to the process of formation of

RNA from DNA?



RNA polymerase enzyme intranscription bind to the gene sequence is called.



Watch Video Solution

126. Answer the following in one word only.

Non-coding sequences of genes are called.



Coding sequences of genes are called.



Watch Video Solution

128. Answer the following in one word only.

The core enzyme associated with 6 factor form polymerase enzyme. These types of enzyme are



Genes with exons and introns are called.



Watch Video Solution

130. Answer the following in one word only.

What is the process called when to form

functional RNA, the exon sequences cut?



Which sequence of triplet code for methionine?



Watch Video Solution

132. Answer the following in one word only.

To which arm of tRNA are amino acids attached?



Which RNA is carrier of genetic information.



Watch Video Solution

134. Answer the following in one word only.

What is the functional unit of gene called?



Triplet of three nucleotides that code for more than one amino acid?



Watch Video Solution

136. Answer the following in one word only.

Codons that do not code for any amino acid

are called.



Genetic unit consisting of an operator, promoter, regulator and structural genes, which determines the presence of set enzymes that catalyze a particular set of chemical reactions is called.



Watch Video Solution

138. Answer the following in one word only.

Which type of protein is absent in prokarytic

DNA?



The position of gene in the chromosome is called.



Watch Video Solution

140. Answer the following in one word only.

Sum total of all genes present in haploid set of chromosomes.

How many base pairs present in complete turn of DNA helix?



Watch Video Solution

142. Answer the following in one word only.

What is the name of DNA strand on which a new strand of DNA produced during replication?



Which RNA has a shape of clover leaf?



Watch Video Solution

144. Answer the following in one word only.

Which is the enzyme that synthesize primers?



The gene which switches off and on the structural gene.



Watch Video Solution

146. Answer the following in one word only.

The gene which controls the operator gene.



House keeping genes are otherwise called.



Watch Video Solution

148. Answer the following in one word only.

A functional unit of inheritance.



DNA with series of identical DNA sequences.



Watch Video Solution

150. Answer the following in one word only.

Enzyme which becomes functional in the presence of its substrate.



tRNA genes transcribed by



Watch Video Solution

152. Answer the following in one word only.

Triplets of bases on DNA.



Tripletes of bases on tRNA.



Watch Video Solution

154. Answer the following in one word only.

Fragments of DNA formed in the lagging strand.



Fredrick Griffith provided the first evidence of

_____ as the genetic material.



Watch Video Solution

156. Fill up the blanks:

Virulent pathogenic forms have coat, made up of ____ which protects its from phagocytosis.



Virulent pathogenic forms have coat, made up of _____ which protects its from phagocytosis.



Watch Video Solution

158. Fill up the blanks:

Some viruses, particularly plant viruses have

_____ as genetic material.



159. Fill up the blanks:

Adenine and guanine are called _____
bases.

160. Fill up the blanks:

There are _____ number of bases which makes nucleic acid.



Nucleotides joined by phosphodister bond form _____ structure of DNA.



Watch Video Solution

162. Fill up the blanks:

The sum of purines and pyrimidines are equal and this is called _____ rule.



Secondary structure of DNA was proposed by

Watson and _____.



Watch Video Solution

164. Fill up the blanks:

DNA strands have sugar phosphate backbone and are ___.



B-DNA show _____ hand helix.



Watch Video Solution

166. Fill up the blanks:

A-DNA have _____ base pairs per 360° turn.



The most stable form of RNA is



Watch Video Solution

168. Clover leaf model of tRNA was proposed by



DNA replication takes place by _______method.



Watch Video Solution

170. Fill up the blanks:

A-T rich regions are called _____ and contain

245 base pairs.



The entire set of enzymes and protein factors in DNA replication is known as .



Watch Video Solution

172. Fill up the blanks:

The sum of purines and pyrimidines are equal and this is called rule.



The promoter sequence to which transcribing enzyme RNA polymerase binds is known as box.



Watch Video Solution

174. Fill up the blanks:

DNA fragments on lagging strand are called

_____ fragments.



On _____ strand, continuous DNA synthesis does not occur.



Watch Video Solution

176. Fill up the blanks:

RNA dependent _____ synthesis is called reverse transcription.



Structural genes are transcribed to _____ RNA which are translated to polyeptides



Watch Video Solution

178. Fill up the blanks:

Operator sequence, structural genes and _____ sequence are the segment of DNA that takes part in transcription.



The promoter sequence to which transcribing enzyme RNA polymerase binds is known as box.



Watch Video Solution

180. Fill up the blanks:

B-DNA show _____ hand helix.



G-C rich segment results in _____loop formation in RNA stem.



Watch Video Solution

182. Fill up the blanks:

Genes with coding and noncoding sequences are known as genes.

are known as _____ genes.



The process of removal of intron segments from exons is called RNA____.



Watch Video Solution

184. Fill up the blanks:

Genetic code with 3 nucleotide is called

----·•



A genetic code in which some amino acids may be encoded by more than one codon.



Watch Video Solution

186. Fill up the blanks:

AUG codes for_____.



UAA,UAG & UGA are ____ codons.



Watch Video Solution

188. Fill up the blanks:

Incoming amino acid, bind to _____ site of

ribosome



Site carrying elongating peptide is called

_____ site.



Watch Video Solution

190. Fill up the blanks:

Translocation of ribosome requires

enzyme_____.



During transcription, RNA polymerase bind to the _____ of a gene.



Watch Video Solution

192. Fill up the blanks:

The site of a gene to which repressor protein bind is called .



A number of contiguous structural genes that take take part in protein synthesis are under control of ____open.



Watch Video Solution

194. Fill up the blanks:

The operator gene is under the control of

____ gene.



There are ____ number of bases which makes nucleic acid.



Watch Video Solution

196. Fill up the blanks:

A gene is turned off in response to presence of a substrate is called .



197. Fill up the blanks:

Genome ordinarily means ____ set of chromosomes in gamete.



Watch Video Solution

198. Human genome project was launched in the year



DNA finger printing means profiling short nucleotide sequence called _____ or VNTRs.



Watch Video Solution

200. Fill up the blanks:

To identify crime DNA _____ is done.



B-DNA show _____ hand helix.



Watch Video Solution

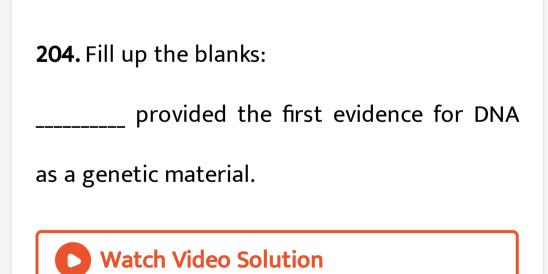
202. Fill up the blanks:

Anticodon loop has the complementary base

sequences with respect to _____.



203. Fill up the blanks:
was the first pointer towards a relation
between gene and enzyme.
Watch Video Solution



205. Fill In The blank: The synthesis of RNA on DNA template is called



Watch Video Solution

206. Fill In The blank: The first tRNA that is brought to the initiating codon is always



207. Fill In The blank: The major function of mRNA is to



Watch Video Solution

208. Fill up the blanks:

____ ordinarily means the haploid set of chromosomes in a gamete or microorganisms.



Tranforming Principle



Watch Video Solution

210. Write note on

Antiparallel arrangement of DNA



Function of DNA



Watch Video Solution

212. Write note on

Replication



Central dogma of molecular biology



Watch Video Solution

214. Write note on

B-DNA



Transcription.



Watch Video Solution

216. Write note on

Translation.



Genetic Code



Watch Video Solution

218. Write note on

Spletgene



Operon



Watch Video Solution

220. Write note on

Gene



tRNA



Watch Video Solution

222. Write short note on the following

DNA fingerprinting



Human genome project.



Watch Video Solution

224. Write note on

Polymerases.



Packaging DNA.



Watch Video Solution

226. Write note on

Properties of the Genetic Code.



227. Write note

Applications of DNA fingerprinting



Watch Video Solution

228. Differentiate between

DNA and RNA



229. Differentiate between:

Messenger RNA Transfer RNA



Watch Video Solution

230. Differentiate between:

Replication & Transcription.



Watch Video Solution

231. Purines and Pyrimidines



232. Differentiate between:

Exon and Intron



Watch Video Solution

233. Differentiate between:

Leading Strand and Lagging strand



234. Describe the structure of DNA?



235. Describe the transiation of prokaryotes.



236. What is an operon?

