

Q. is the genetic
material? ans. a.



**ASSIGN
BUSTER**

Q. 1. What is the basis of DNA length? Ans. It depends on the number of nucleotide pairs present in it.

Q. 2. Name the molecules that form the backbone of polynucleotide chain.

Ans.

(1) Sugar (2) Phosphate. Q. 3. What are the ratios between Adenine and

Thymine and Guanine and Cytosine? Ans. It is constant and equals to one. Q.

4. Who identified the acidic nature of deoxyribose nucleic acid? Ans.

Friendrich Meischer. Q. 5. Who proposed the central dogma of molecular biology? Ans.

Francis Crick. Q. 6. What is central dogma in molecular biology? Ans. The

flow of information from DNA -> RNA -> Protein is called central dogma in

molecular biology. Replication— transcription translation DNA ————— —>

In RNA————— » Protein Q.

7. What is the term ' beads-on-a string' stand for? Ans. It stands for

nucleosomes in a chromatin. Q. 8. What was the conclusion of Griffith's mice experiment? Ans.

When the heat killed S-type bacteria mixed with R-type bacteria was injected

to mice it transformed the R type to S type bacteria and killed the mice due

to pneumonia. Q. 9. What was the work of O. Avery, C. Macleod and M.

Mccarty? Ans. They isolated the material that transformed R type bacteria into S type bacteria.

It was DNA. Q. 10. Whose experiments proved that DNA is the genetic material? Ans. A. Hershey and Marks chase on bacteriophages. Q.

11. Mention the dual role/functions of deoxyribonucleotides triphosphates in a cell. Ans. (1) Act as substrates for polymerization (2) Provide energy for polymerization Q. 12.

Mention two characteristics of polymerization? Ans. (1) High speed — 2000 bp/Sec. approximately. (2) High degree of accuracy.

Q. 13. Mention the regions in the DNA that act as transcription unit? Ans. (i) A promotor, (ii) Structural gene, (iii) Terminator. Q. 14. What is the similarity between DNA polymerase and RNA polymerase? Ans.

Both are DNA dependent enzymes and do polymerization in only one direction, i. e. 5' to 3'. Q.

15. If the sequence of one strand of DNA is written as follows:

TACGTACGTACGTACGT ACGTACG write down the sequence of complementary strand in 5'—3'. Ans. 5'—ATGCATGCA TGCATG CATGCA TGCATGC—3' Q.

16. If the sequence of the coding strand in a transcription unit is written as follows: 5' ATGC ATGCATGCA TGC ATGC ATGCATGC—3' write down the

sequence of complementary strand in RNA. Ans. UACGUACGUACG UACGUA CGUACGUACG: Q. 17. What is operon? Ans. A polycistronic structural gene, promotor and regulator genes of bacteria is called operon.

Q. 18. Expand the terms — HGP, BAC Ans. Human Genome Project, BAC — Bacterial Artificial Chromosome. Q.

19. What is satellite DNA? Ans. The small peaks formed during the DNA finger printing in DNA sequence is called satellite DNA. Q. 20.

What is VNTR in DNA finger printing? Ans. The use of satellite DNA as probe (that shows very high degree of polymorphism) is called as Variable Number of Tandem Repeats (VNTR). Q. 21.

List two essential roles of ribosome during translation. (NCERT) Ans. (1) Charging of tRNA or aminocylation of tRNS. (2) Acts as catalyst for binding of amino acids by forming peptide bond.