**AZRA NAHEED MEDICAL COLLEGE**
DEPARTMENT OF BIOCHEMISTRY

**Name: _____**

**Roll No. : _____**

**Marks obtained: _____**

**NUCLEOTIDES & GENETICS- 2020**
**MODULE 06 2ND YEAR – MCQs**

**Total marks:** **30**
**Time Allowed:** **25 minutes** **17/08/2020**

Select one best answer

| | |
|---|---|
| **1** **In replication**<br>(a) Whole of the DNA is copied<br>(b) 50% of the DNA is copied<br>(c) Whole of the RNA is copied<br>(d) Proteins are made | **2** **Replication is done by**<br>(a) RNA polymerase I<br>(b) RNA polymerase II<br>(c) RNA polymerase III<br>(d) DNA polymerase |
| **3** **The process of synthesizing RNA from DNA and then synthesis of protein from that RNA is called**<br>(a) Reverse transcription<br>(b) Duplication<br>(c) Replication<br>(d) Gene expression | **4** **Gene expression takes place in all the phases of cell cycle except**<br>(a) **$G_0$** phase<br>(b) **S** phase<br>(c) **$G_2$** phase<br>(d) **M** phase |
| **5** **Prokaryotes have**<br>(a) Circular DNA<br>(b) Circular RNA<br>(c) No DNA<br>(d) DNA is present outside the nucleus | **6** **In replication which of the following stands is used**<br>(a) Coding strand<br>(b) Template strand<br>(c) Both coding and template strands<br>(d) TATA box |
| **7** **Transcription is**<br>(a) Synthesis of proteins<br>(b) Synthesis of RNA from DNA<br>(c) Synthesis of DNA from RNA<br>(d) Making a copy of the whole DNA | **8** **DNA polymerase requires**<br>(a) Sigma factor<br>(b) DNA primer<br>(c) RNA primer<br>(d) Rho protein |
| **9** **In replication the opening of replication fork is done by which enzyme?**<br>(a) RNA polymerase<br>(b) DNA polymerase<br>(c) Helicase<br>(d) Topoisomerase | **10** **Okazaki fragments are found in**<br>(a) Leading strand<br>(b) Lagging stand<br>(c) Coding strand<br>(d) Template strand |
| **11** **In transcription RNA polymerase reads the**<br>(a) Coding strand<br>(b) Template strand<br>(c) Both coding and template strands<br>(d) RNA polymerase has no function here | **12** **In transcription synthesis always takes place from**<br>(a) 3' to 5'<br>(b) 5' to 3' price<br>(c) Both directions<br>(d) It does not take place in transcription |
| **13** **In transcription synthesis is always**<br>(a) Parallel to the template strand<br>(b) Antiparallel to the coding strand<br>(c) Antiparallel to the template strand<br>(d) Antiparallel & complementary to the template strand | **14** **In cell cycle S phase is**<br>(a) Replication<br>(b) Transcription<br>(c) Translation<br>(d) Resting phase |

| | |
|---|---|
| **15 The 3' end of tRNA always ends with**<br>(a) AUG<br>(b) UAG<br>(c) UAA<br>(d) CCA | **16 mRNA of Prokaryotes is**<br>(a) Monocistronic<br>(b) Polycistronic<br>(c) mRNA is only present in Eukaryotes<br>(d) Bipolar |
| **17 The activator of CPS II in pyrimidine synthesis is**<br>(a) GTP<br>(b) UTP<br>(c) N-acetyl Glutamine<br>(d) PRPP | **18 The activated sugar in purine & pyrimidine synthesis is**<br>(a) Glucose 6- phosphate<br>(b) Ribosyl phosphate<br>(c) 5 phosphoribosyl 1 pyrophosphate<br>(d) Deoxy ribosyl pyrophosphate |
| **19 The amino acids which donate amine groups for the purine biosynthesis are:**<br>(a) Glycine, glutamine, aspartate<br>(b) Glycine, Phenylalanine, Glutamate<br>(c) Lysine, glutamine, aspartate<br>(d) Glycine, Threonine, aspartate | **20 The first purine nucleotide that is fully formed in the de novo synthesis pathway is:**<br>(a) AMP<br>(b) GMP<br>(c) CMP<br>(d) IMP |
| **21 Which of the following serves as the cofactor for the de novo synthesis of purine metabolism?**<br>(a) Thiamine<br>(b) Biotin<br>(c) Folate<br>(d) Flavin | **22 Which of the following contribute nitrogen atoms to both purine and pyrimidine rings?**<br>(a) Aspartate<br>(b) Carbamoyl phosphate<br>(c) Carbon dioxide<br>(d) Glutamate |
| **23 The enzyme xanthine oxidase is inhibited by**<br>(a) Allopurinol<br>(b) Corticosteroids<br>(c) Ibuprofen<br>(d) Colchicine | **24 The enzyme associated with hyperuricemia is**<br>(a) Glucose 6 phosphatase<br>(b) HGPRTase<br>(c) PRPP synthetase<br>(d) All of the above |
| **25 The enzyme xanthine oxidase catalyzes the conversion of**<br>(a) Inosine to hypoxanthine<br>(b) Guanosine to guanine<br>(c) Xanthine to uric acid<br>(d) Inosine monophosphate to inosine | **26 The end product of purine degradation in humans is**<br>(a) Urea<br>(b) Allantoin<br>(c) Xanthine<br>(d) Uric acid |
| **27 A patient presented with cognitive disorders, behavioral disturbances and an urge to bite his lips. Which of the following disorders he must be suffering from?**<br>(a) Hurler syndrome<br>(b) Gouty arthritis<br>(c) Lesch- Nyhan syndrome<br>(d) Down syndrome | **28 What is an activator of the enzyme "Glutamine: Phosphoribosylpyrophosphate amidotransferase" a committed step of de novo biosynthesis of purines?**<br>(a) Adenosine Monophosphate<br>(b) Guanosine Monophosphate<br>(c) Inosine Monophosphate<br>(d) Phosphoribosyl Pyrophosphate |
| **29 Which of the following amino acid contributes to more than half of the pyrimidine ring?**<br>(a) Arginine<br>(b) Glutamine<br>(c) Aspartate<br>(d) $CO_2$ | **30 The main site of de novo purine synthesis is**<br>(a) Kidneys<br>(b) Liver<br>(c) Lungs<br>(d) Red Blood Cells |