WORKSHEET_B

THE GENE EXPRESSION REGULATION_PART 2

1) **RNA polymerase binds to the:**

   a) Operator
   b) Promoter
   c) Regulator
   d) Terminator
   e) Enhancer

2) **The most efficient control of eukaryotic gene expression is achieved at the level of:**

   a) Replication
   b) Transcription initiation
   c) Post-transcription
   d) Translation initiation
   e) Post-translation

3) **At which of the following level(s) can gene expression be regulated in eukaryotes?**

   a) Passage of mRNA through the nuclear membrane
   b) Destruction of the mRNA
   c) Rate of protein synthesis
   d) A and B
   e) A, B and C

4) **DNA is associated to proteins called……to form a condensed chromatin**

   a) Nucleosomes
   b) Barr bodies
   c) Transcription factors
   d) Histones
   e) SSBPs

5) **The exons of eukaryotic mRNA are removed and the introns are spliced together**

a) TRUE
b) FALSE

6) Nucleosomes are complexes containing …… plus …….

7) The tortoiseshell cat:

- Is an example of post-transcriptional regulation TRUE FALSE
- Is the genotypic consequence of chromosome Y inactivation TRUE FALSE
- Is the phenotypic consequence of chromosome X inactivation, occurring both in male and female TRUE FALSE
- Has to be heterozygous for the two alleles (black and orange fur) TRUE FALSE

8) The assembly of transcription factors begins:

a) Upstream from the transcription start site
b) Downstream from the transcription start site
c) Upstream from the translation start site
d) Downstream from the translation start site
e) Downstream from the translation stop site

9) The various transcription factors bind to the promoter

a) TRUE
b) FALSE

10) Chromatin rearrangement modifies the histone - DNA structure so that translation can occur

a) TRUE
b) FALSE

11) Splicing joins together:

a) Two introns
b) Two exons
c) An intron and an exon
d) Any two RNA molecules
e) A DNA and an RNA molecule