1. While studying the transcripts in vitro you observe that other than the longer transcripts there are some short stretches of RNA oligomer produced as well. You repeat the experiment several times but these oligomers seem to persist. What is the possible explanation?
a) Procedural error
b) They are the un-ligated oligomers of lagging strand
c) Experimental artifact
d) Normal occurrence

2. Capping of RNA is necessary as_____
a) It helps us distinguish 5' from 3' end
b) It has a rolling action and condenses the transcript as it is produced
c) To protect the transcript from exonuclease
d) To prevent the transcript from sticking to DNA

3. What is the 1st nucleotide of a completely synthesized transcript?
a) A
b) G
c) C
d) T

4. Processivity of RNA polymerase is _____

a) Very high
b) High
c) Low
d) Very low

5. Which antibiotic inhibits transcription elongation?
a) Rifampicin
b) Streptolydigin
c) Penicillin
d) Tetracyclin6. You design a reconstructive RNA polymerase where you take the beta and alpha subunit from a rifampicin resistant strain and beta prime and sigma subunit from rifampicin sensitive strain. You check the rate of transcription by this RNA polymerase after the addition of the antibiotic. What will be your observation?
a) No transcription
b) Reduced transcription
c) Normal transcription
d) Improved

7. You add labeled Uridine analogue to the mixture of DNA and RNA pol in vitro. What are you trying to determine?
a) Catalytic subunit of RNA pol
b) Processivity of RNA pol
c) Presence of DNA – RNA hybrid
d) Length of DNA already transcribed transcription

8. Which of these is not a part of RNA polymerase elongation machinery?
a) NTP entry channel
b) RNA entry channel
c) DNA entry channel
d) Clamp

9. Melting of DNA would lead to _____
a) Increase in UV absorption
b) Increase in Fluorescence
c) Decrease in UV absorption
d) Decrease in fluorescence

10. In a stretch of DNA being transcribed, the region forward to the Elongation is _____
a) Positively supercoiled
b) Negatively supercoiled
c) Uncoiled
d) Forms a secondary structure