The Answer of First Question:

1- Oxidative stress is the main reason of accelerated senescence. Free radicals can result tissue degeneration by damaging mitochondria genome and cause early apoptosis (programmed cell death) through the damage of nuclear genome. Oxygen is present in high amounts in the mitochondria to be reduced to water by a stepwise reduction (the opposite reaction of oxidation) by reacting with electrons and hydrogen.During this process very often O2 accidently receives additional electrons becoming itself a radical ($O.^{-}_{2}$, superoxide radical) and is then the origin of additional oxygen derived radical species.

2-Telomeres are repetitive DNA sequences at the ends of all human chromosomes,They contain thousands of repeats of the six-nucleotide sequence, TTAGGG,In humans there are 46 chromosomes and thus 92 telomeres (one at each end) ,senescent cells have shorter telomeres,length differs between species,in humans 8-14kb long,telomere replication occurs late in the cell cycle. Once the telomere shrinks to a certain level, the cell can no longer divide. Its metabolism slows down, it ages, and dies.

3- Could histones play role in regulation of gene expression? How?

Yes, Histones play role in regulation of gene expression.Histones also modulate the regulation of gene expression. Proteins in general can be chemically modified after translation. Histones potentially undergo the following chemical modifications: 1-acetylation(addition of an acetyl group). 2-methylation (addition of a methyl group). 3-phosphorylation (addition of an inorganic phosphate),. 4- ADP ribosylation (addition of one or more ADP-ribose moieties).

The Answer of Second question:

1- add new base , Removing damage base,.
2- Hyflick Limit, teleomerase
3- CpG, CH3,switich off
4- (deacetylation), enzyme histone deacetylases (HDACs), to the reestablishment of the tight histone-DNA interaction(transcription is repressed).
5- Non coding RNA, mRNA, translational repression
6- DNA strand breaks, crosslinks ,protein

The Answer of third question:

1-Comparison between permissive and repressive chromatin is:

Permissive, i.e. transcriptionally accessible, chromatin is characterized by hyperacetylation of histone tails and hypomethylation of histones and DNA.

Repressive since more condensed chromatin exhibits hypoacetylation of histones and hypermethylation of histones and DNA.

2-Base excision repair:

replacement of only one single nucleotide , repairing depend on using these enzymes:DNA glycosylase, Ap endonuclease phosphodiestrase, DNA Polymerase, DNA Ligase, on the Other hand 2-nucleotide excision repair repairing depend on the following enzymes: Nuclease, DNA helicase,DNA polymerase, DNA Ligase.