

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
BCH 475
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Please mark the correct statements with (T) and the incorrect one with (X):

- 1- In development of colon cancer, the benign formed after the polyp formation.
- 2- Direct-acting carcinogens chemically modify certain nucleotides by reacting with nitrogen and oxygen atoms in DNA.
- 3- Quinolines found in an industrial products and they found in tobacco smoke.
- 4- The malignant tumor site contains invasive tumor cells and normalepithelial cells.
- 5- The aromatic or heterocyclic amines metabolism can lead to ring epoxy derivatives by reducing the hydrodiols ar rearrange the diphenols.
- 6- The hyperactive mutant protein produces from altered coding sequence on the DNA.
- 7- In animals, activation of indirect-acting carcinogens like insecticides often is carried out by lung enzymes.
- 8- Aromatic amines are analogs of aniline and they activated to nitrenium (N^+) ion.
- 9- The class II adenoma is the last stage before malignancy development.
- 10- The epigenetic carcinogens have direct interaction with genetic materials.
- 11- Benzo(a)pyrene activated by epoxide hydralase in human cells.
- 12- Because they easily detoxified, the polycyclic arylamines are not carcinogenic compounds.
- 13- Major classes of cancers derived from epithelial cells because they are surface cells and they suffer exposure to dangerous chemicals and harmful radiation
- 14- The heterocyclic amines consist from single or multiple ring systems with exocyclic amino group.
- 15- Many carcinogens are or can be biotransformed to electrophiles that react covalently with DNA.
- 16- Cocarcinogens are agents which have strong carcinogenicity effect.

- 17- Tumor known when regulated cells have descendants that inherit the propensity to proliferate without responding regulation.
- 18- The undifferentiated cancer is the last step in neoplastic development.
- 19- Azo compounds are synthetic chemicals found in nature including 4 dimethylamino-azobenzene.
- 20- The halo ethers are halogens and they do not activated by electron transfer.
- 21- Benign tumor referring to a tumor containing cells that closely similar to the normal cells.
- 22- Cis-Platinum is complex chelating divalent platinum with chloride anion and three amino groups.
- 23- Anesthetic gases like halothane, nitrous oxide and metofane have embryotoxic properties.
- 24- Indirect-acting carcinogens acts as potent cancer inducers only after conversion to ultimate carcinogens.
- 25-Under an aqueous condition, Nitrosamides can be hydrolytic decomposition.

Q2: Each question has four multiple choices. Please mark the correct and the incorrect one:

- 1- The lumen of colon in malignant tumor development contains of:
- A- Blood vessel.
 - B- Invasive tumor cells.
 - C- The polyp.
 - D- Basal lamina.
- 2- STEVIA is:
- A- Preservatives.
 - B- Stevioside.
 - C- Powdered dietary.
 - D- Flavoring.
- 3- N-acetyltransferase system found in;
- A- Arylamines
 - B- Heterocyclic amines
 - C- Quinolines
 - D- Azarenes
- 4- Cancer ;
- A- Caused by a mutation in somatic cells.
 - B- Caused by an accumulation of 3 to 20 mutations.

- C- Caused by a mutation in both somatic and germ cells.
 - D- Caused by a single mutation.
- 5- The enzymes shown below are activated or deactivated many chemical Carcinogens in cellular compartments:
- A- Epoxide hydrolase.
 - B- P.450.
 - C- Glucuronation enzyme.
 - D- Sulfotransferase.
- 6- Many of indirect-acting carcinogens are;
- A- fat-soluble compounds
 - B- accumulate in fat cells and lipid membranes.
 - C- Excreted from the body as they are
 - D- Converted to water-soluble derivatives
- 7- In malignancy:
- A- Refer to tumor cells that invade surrounding normal tissue.
 - B- The malignant cells express special proteins.
 - C- Cells divided more rapid.
 - D- The cells start to died fast.
- 8- The DNA adducts effect by;
- A- Activation dependent compounds
 - B- Promoter compounds
 - C- Inorganic compounds
 - D- Cytotoxic compounds
- 9- The aromatic structure carcinogens;
- A- Nitrogen mustard
 - B- Methyl nitrosoarea
 - C- Dimethyl sulfate
 - D- Safrol
- 10- The metastasis:
- A- Known as spread of tumor cells and establishment of secondary area of growth.
 - B- All malignant cells have an ability to metastasized.
 - C- Characterized from benign ones by invasiveness and spread.
 - D- Is the last step in tumor development.
- 11- The Acesulfame-K:
- A- Is artificial color.
 - B- Found in chewing gum.
 - C- Found in gelatine.
 - D- Occur in nature.
- 12- The carcinogens promotion stage includes:
- A- Activated carcinogens binds to DNA.
 - B- Alteration in DNA structure.
 - C- Stimulation of DNA replication

- D- Transformed cell formation.
- 13- Most of mutagenic chemicals found in the Salmonella Typhimurium TA98 are;
PAHs compounds
Azo compounds
Imidazoquinoline compounds
Quinoxaline compounds
- 14- Malignant tumors classes:
A- Sarcomas derived from endoderm.
B- Carcinomas derived from endoderm and mesoderm.
C- All malignant tumors are solid masses.
D- Leukemias is a class of ectoderm.
- 15- Nitrosamines:
A- Form reactive carbonium (C^+) ions.
B- Contaminates of cereal grains and peanuts.
C- Analogs of aniline.
D- Formed by reaction of nitrite with amines at low pH.
- 16- The epigenetic carcinogens is;
A- Inorganic
B- Cytotoxic
C- Activation dependent
D- Peroxisome proliferators
- 17- Yellow 6 is artificial coloring found in:
A- Cherries in fruit cocktail.
B- Baked goods.
C- Pet food.
D- Gelatin.
- 18- Genes and cancer:
A- Proto-oncogenes are mutant genes that promotes cancer.
B- Tumor-suppressor genes work as anti-proto-oncogene.
C- Proto-oncogenes produce from mutated an oncogene.
D- Both oncogenes and proto-oncogenes prevent unwanted cell division.
- 19- Carcinogene Stages:
A- In the initiation stage leads to deactivation and excretion.
B- In the initiation stage covalent binding to DNA leads to error and free repair.
C- In promotion stage start with derepression of chromosomal elements.
D- In promotion stage transformed cells leads to immune surveillance.
- 20- PAH:
A- Formed by combustion of carbonaceous materials.
B- Activated by epoxidation.
C- Have promoter activity.

D- Cause skin and lung cancer.

21-Saccharin is;

- A- Activation independent carcinogens.
- B- Inorganic carcinogens.
- C- Hormone modifying carcinogens.
- D- Activation dependent carcinogens.

22- The plastics is;

- A- DNA reactive carcinogens.
- B- Epigenetic carcinogens.
- C- Solid state carcinogens.
- D- Inorganic.

23- Nitroso compounds ;

- A- Derived from primary amines or amides.
- B- Have carcinogenic effects.
- C- Cause alkylation of DNA in liver cells.
- D- Do not found in antibiotic drugs.