

Name _____ **Biology of Cancer and AIDS**

1. **'Watchful-waiting' for certain types of breast cancer includes.**
(A) treatment with an anti estrogen drug (C) regular Doctor visits
(B) regular MRI scans (D) A, B and C
2. **The risk of throat cancer from smoking and drinking is equal to doing either alone.**
(A) True (B) undetermined (C) False
3. **Over time immigrant families tend to acquire cancers of their host countries. This evidence for?**
(A) spontaneous mutation (C) environment causation
(B) hereditary cancer (D) familial hereditary
4. **Cancer vaccines attempt to?**
(A) immunized against all cancers (C) prevent metastasis
(B) expose the immune system to tumor antigens (D) none of the above
5. **Herceptin (Her2+ treatment) and Avastin are both?**
(A) treatments for all types of cancer (C) breast cancer treatments
(B) immunotherapies (D) chemical inhibitors
6. **The LA times or Wikipedia can never be used as the only source of reliable information**
(A) True (B) unclear (C) False
7. **In the Comet assay, what are comet 'tails' made of**
(A) florescent dye (B) the potential mutagen (C) protein (D) DNA
8. **Estrogen is involved in which of the following?**
(A) preventing bone loss (B) sexual development
(C) protecting the heart (D) A, B and C
9. **The Cochrane collaborative logo describes the results of a(n) _____ that recommended the use of _____ for premature babies.**
(A) experiment, formula (C) observational trial, steroid injections
(B) meta-analysis, steroid injections (D) clinical trial, antibiotics
10. **USFSTF and Cochrane are the similar types of organizations with the same goals.**
(A) True (B) unclear (C) False
11. **Who should *not* use estrogen to lessen the side effects of menopause.**
(A) women with Estrogen receptor positive tumors (C) women with a familial history of breast cancer
(B) premenopausal women (D) all are correct
12. **Extreme/morbid obesity, as measured by BMI, is a risk factor for a variety of cancers.**
(A) True (B) False
13. **Recessive mutations require two mutant alleles for the phenotype to be expressed.**
(A) True (B) False
14. **In one family there are several generations of members with cancer, multiple cancers in one person, and a variety of different types of cancer. Cancer in this family would be classified as _____ cancer**
(A) sporadic (B) hereditary (C) environmental (D) familial

15. **Carcinoma *in situ* refers to a type of metastases.**
 (A) True (B) False
16. **All of the following would indicate cancer due to a spontaneous mutation EXCEPT?**
 (A) prostate cancer in an 80 year old man (C) lack of a family history
 (B) Cancer occurs at much older ages (D) Melanoma and Colon cancer in a 20 yr old
17. **Herceptin is an antibody-based drug that binds and prevents Her-2 receptor signaling. Herceptin is recommended for treatment of which types of breast cancer?**
 (A) ER+ (B) Her2+ (C) triple negative (D) all types
18. **Initial media coverage of the Woman's Health Initiative and The Million Women studies reported that hormone replacement therapy lead to breast cancer.**
 (A) True (B) unclear (C) False
19. **Cancer causation is a combination of genetics, lifestyle choices, environmental exposure (including infectious agents), and spontaneous/random mutation. Which one of these factors accounts for the most cancers?**
 (A) genetics (B) lifestyle choices (C) spontaneous mutation (D) environmental exposure
20. **A women's risk of heart disease increases after menopause. Which of the following support this fact/data.**
 (A) estrogen prevents bone loss (C) estrogen is involved in heart health
 (B) estrogen is required for sexual development (D) no correct answer
21. **The majority of new breast cancer cases are due to spontaneous mutation.**
 (A) True (B) False
22. **Birth control and some types of HRT for menopausal symptoms contain Estrogen.**
 (A) True (B) False
23. **You just got a job to work in a lab where genetic testing to determine heredity is done. You were asked to perform a test to determine if a baby girl has inherited retinoblastoma gene. Which of the following cells do you need for the test?**
 (A) Retinal cells from the baby's left eye (C) Retinal cells from both eyes
 (B) Egg cells from the baby's ovary (D) Any of the baby's cells will do
24. **Angelina Jolie's announcement that she had _____ lead to an increase in _____.**
 (A) a ovarian cyst, radical mastectomies (C) a radical mastectomy, BRCA testing
 (B) breast cancer, mammograms (D) BRCA mutations, BRCA testing
25. **Every cell in your body has a molecule on its plasma membrane (outer surface) which identifies it as _____. In some cases _____ cells have proteins on their surface which are recognized by the immune system as _____.**
 (A) alive, host, self (C) self, tumor, foreign
 (B) foreign, self, self (D) normal, mutant, self
26. **Your thymus has begun to shrink in your 20's. This means**
 (A) your remaining T cells can identify your cells and antigen (C) your T cells have begun to die off
 (B) you are at higher risk of infection (D) your T cells have detected antigen
27. **Mouse experiments which demonstrate the ability of the immune system to fight tumor spread showed that cancer cells with _____ types of self/ MHC antigen presenting molecules lead to _____ metastases when injected into a mouse.**

(A) more, fewer (B) fewer, more (C) more, larger (D) milder, larger

28. **Spontaneous mutations are caused by replication errors or DNA damage.**

(A) True (B) False

29. **Lymphocytes, including T cells and B cells, have receptors for foreign proteins. B cell receptor proteins are found in bodily fluids and are called antibodies. T cell receptors are found in the?**

(A) nucleus (B) cell membrane facing out (C) cell membrane facing in (D) lysosome

30. **Age is a factor in determining the risk of breast cancer in women carrying BRCA mutations. Older women with these mutations get less breast cancer. This is evidence for _____ .**

(A) environmental causation (C) misdiagnosis
(B) genetic causation (D) additional mutations

31. **The foreign proteins on bacteria, viruses, pollen and tumors, that your immune system reacts to are called _____ .**

(A) antibodies (B) allostatins (C) antigens (D) allergens

32. **One type of Cancer vaccine works by isolating _____ from the patients' blood and stimulating them outside the body with _____ to increase their ability to attack tumors.**

(A) B cells, antibodies (C) T cells and APCs, bacteria
(B) T cells and antigen presenting cells, tumor antigen (D) T cells, viral proteins

33. **Increased consumption of fat and red meat _____ correlates with _____ ?**

(A) positively, lung cancer (C) positively, colon cancer
(B) negatively, weight gain (D) negatively, asthma

34. **A metanalysis is essentially a literature search that identifies reliable data.**

(A) True (B) False

35. **Which of the following statements is evidence that the immune system does play a role in fighting Cancer?**

(A) Cancer does not occur in cells of the immune system
(B) Tumors never spontaneously shrink
(C) Patients on immunosuppressive drugs have a *higher* rate of Cancer
(D) none of the above

36. **Typically, _____ cancer occurs early in a person's life because _____ .**

(A) spontaneous, mutation happens in that person (C) familial, no mutations occur
(B) hereditary, a mutation is inherited (D) de novo, mutations are passed on

37. **A large twin study finds that both twins rarely get a particular type of cancer. This is evidence for ?**

(A) genetic causation (C) environmental causation
(B) spontaneous mutation (D) frameshift mutation

38. **Alcohol consumption by women in their 20s is an establish risk factor for breast cancer.**

(A) True (B) Unknown (C) False

39. **Immune system cells travel throughout the body in the lymphatic system.**

(A) True (B) False

40. **Red and white blood cells are formed in the bone marrow.**

(A) True (B) False

****40 questions only****

