系 級	科 目	授課教師	考 試 日 期	學 號	姓 名
醫四	腫瘤生物學	邱仲峰	91 年 1 月 9 日第___節		

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②每張試題卷務必填寫(學號)、(姓名)。

一、選擇題：

1. Which statement is wrong:
   [a]. Majority of cancer is sporadic type
   [b]. Majority of cancer is due to mutations due to somatic cells
   [c]. A large percentage of common cancers due to inherited defect.
   [d]. Rare cancer can result from mutations of germ cells.

2. Which statement of inherited defects is right?
   [a]. The inherited defects are passed in somatic cells.
   [b]. The germline mutaions is not confined to repressor genes.
   [c]. APC gene was the first identified
   [d]. Rb gene mutation is noted in many cancers sporadically.
   [e]. BRCA1 gene is affected in sporadic cases.

3. The location of Rb gene in chromosome is:
   [a]. 13q14   [b]. 14p13   [c]. 18q14,   [d] 11p13

4. The methods of repressor inactivation is not related to
   [a]. Protein binding   [b]. Dephosphorylation
   [c]. Mutation   [d] active growth promoter bind to repressor gene.

5. Which statement about retinoblastoma is wrong?
   [a]. strong familial link.   [b]. Unilateral type is sporadic, noted in younger age
   [c]. Bilateral type get 1st hit in germline   [d]. Bilateral type have familial connection.

6. Which statement about weaker familial link cancer is wrong ?
   [a]. Most cancers is in this category
   [b]. Mostly, the genes that are indirectly implicated in carcinogenesis,
   [c]. They may indirectly affect the function related to DNA repair, immune response or metabolic defects.
   [d]. The Rb gene is direct involved in carcinogenesis.

7. Which statement about the carcinogenesis of colon cancer is wrong?
   [a]. APC gene can induce normal epithelium change to hyperplasia
   [b]. The process of hyperplasia to carcinoma is related to k-ras, N-CAM, and p53 genes.
   [c]. There are many genes changes related to metastases.
   [d]. The function of k-ras is signal transduction and this gene is lost in colon cancer.

8. Which statement about breast cancer is wrong?
   [a]. Familial breast cancer is characteristic by early age of onset and more than 80% probability of developing breast cancer.
   [b]. BRC A1 gene had no phenotypic traits
   [c]. More than 10% of breast cancer is familial related
   [d] BRC A1 gene is inherited as an autosomal trait.

9. Which statement about BRCA genes is right:
   [a] BRCA1 gene loss does not confer increased risk of ovarian cancer.
   [b]. BRCA1 gene is a transcription factor
   [c]. BRCA2 gene is not related to male breast cancer
   [d]. BRCA2 gene is located in 17p

10. Which condition is related to indirect involvement in weak familial linked cancer?
    [a]. Xerderma pigmentosum   [b]. Li-Fraumeni syndrom

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[c]. Neurofibromatosis   [d]. Familial brest cancer

11. The carcinogenesis in signaling pathways is not related to?

   [a]. Protein phosphorylation   [b]. Oncogenes   [c]. De novo protein synthesis

   [d]. Different cancer type use different ways to become autonomous.

12. Which type of humoral signals is not important for signal transduction in carcinogensis ?

   [a].endocrine   [b]. Exocrine

   [c]. Paracrine   [d]. Autocrine.

13. Which kind molecules do not need transmembrane receptors to induce signal transduction in cells?

   [a]. Growth factors   [b]. TNFs

   [c]. Interleukines   [d]. Thyroid hormone.

14. Which is not a transmembrane receptor?

   [a]. Integrins   [b]. GTP-binding protein

   [c].G-protein receptor   [d]. EGFR

15. Whose receptor is not related to tyrosin kinase ?

   [a]. TGF-□   [b]. Interleukins

   [c]. Insulin   [d]. TNFs.

16. Whose receptor is related to recruit tyrosin kinease?

   [a]. PDGF   [b].GSF

   [c].TGF-□   [d]. GnRH

17. The signal transduction cascade of serine/threonine kinase receptor is not related to

   [a]. PKC activation   [b]. Cell cycle regulation

   [c]. JAKs   [d]. Docking mechanism.

18. The signal transduction cascade of tyrosine kinase receptor is not related to

   [a]. PKC activation   [b]. Ras-GDP formation

   [c]. PI3K   [d]. PLC-□

19. Which kind of cell adhesion molecules is related to cell-matrix interaction?

   [a]. Integrins   [b]. Cadherins

   [c]. CD44   [d]. Selectins

20. Which statement is wrong?

   [a]. breast cancer cells produce PDGF-R

   [b]. most growth factors are large precursors type initially,

   [c].SCLC can produce gastrin-releasing peptide that had mitogenic and autocrine effects.

   [d]. Low concentration of growth factor [10^{-10}M] can induce dissociation of growth factor

21. receptorscancer metastasis is characterized by:

   a. The spread of tumors cells from a primary neoplasm to contiguous sites

   b. also seen in endometriosis

   c. Final stage of tumor progression

   d. all of above

22. objective of metastasis study :

   a. .Predict aggressiveness of patient's tumor

   b. Identify clinically occult metastasis

   c. Eradicate metastasis

   d. all of above

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23. Angiogenic switch by tumor cells:
   a. oxic tumor cell at tumor center
   b. inactivate new vessels growth
   c. secretion of angiogenic factors
   d. intraepithelial vascularization
   e. Increase in invasive potential of tumor

24. Clonal dominance of tumor cells
   a. Continued genetic alteration
   b. Clonal selection of tumor cells
   c. Acquisition of invasive phenotype
   d. none of above
   e. all of above

25. Survival in the circulation is affected by:
   a. formation of tumor cell clumps (emboli)
   b. all of above
   c. tumor cells interaction with pericytes
   d. none of above

26. Tumor cell arrest occurs :
   a. after survival in circulation
   b. without adherence to basement membrane
   c. due to shape trapping on inflow microcirculation
   d. all of above

27. patient's chance of metastasis when first diagnosed with cancer:
   a. 30% - clinically detectable metastasis at time of initial diagnosis
   b. 30% - clinically free of metastasis ,however, with occult metastasis
   c. 30% - no occult metastasis, cured by local therapy
   d. all of above is true

28. metastatic potential of a tumor is influenced by :
   a. Tumor size
   b. Tumor calcium level
   c. Molecular phenotype of patient
   d. A+C
   e. all of above

29. Multistep theory of tumorigenesis
   a. Activation of oncogenes
   b. Inactivation of tumor suppressor gene
   c. Expression of Tumor –associated molecules (tumor markers)
   d. all of above

30. primary tumor usually metastasize to which organs?
   a. liver
   b. lungs
   c. bone
   d. all of above

31. Genotoxic　agent 會與下列何種細胞的 DNA 產生共價鍵結？
   a. Non-proliferating cell
   b. Proliferating cell
   c. (A) (B)皆是
   d. (A) (B)皆非

32. 下列何種是 Non-genotoxic carcinogen ?
   a. Aromatic amine
   b. Hormonal steroids
   c. Alkylating agent
   d. 以上皆非

33. 下列何者為 particles ionizing radiation ?
   a. Isotope
   b. Ultraviolet light
   c. Atomic particles
   d. 以上皆非

34. 下列何者非 Ionizing radiation 對 chromosome 所產生的主要破壞方式？
   a. Deletion
   b. Point mutation

私立臺北醫學院 ___九十___ 學年度第 ___一___ 學期 期中考試 命題紙
期末考試 (試)

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c. Rearrangement　　　　　　　　　　　　　　d. 以上皆非

35. 下列何者是 ROS 過程的產物？
　　a. Super oxide　　　　　　　　　　　　　b. Hydroxyl radical
　　c. Hydrogen peroxide　　　　　　　　　　d. 以上皆是

36. 下列何種 chemical carcinogene 有 "bifunction"的作用？
　　a. Polycylic aromatic hydroconbons　　　　b. Aromatic Amines
　　c. Nitrosamines　　　　　　　　　　　　d. Alkylating agent

37. 在 DNA mutation 的過程中，若使 G→A 稱為？
　　a. Transation　　　　　　　　　　　　　b. transversion
　　c. transfusion　　　　　　　　　　　　　d. 以上皆非

38. P53 mutation is associated with caners of ?
　　a. Colon　　　　　　　　　　　　　　　b. lung
　　c. Breast　　　　　　　　　　　　　　　d. All of above

39. Which kind of UV light is the most powerful carcinogcn for skin cancer ?
　　a. UVA　　　　　　　　b. UVB　　　　　　　　c. UVC

40. which kind of human cell is most useful to predict the radiation exposure dose ?
　　a. muscle cell　　　　　　　　　　　　　b. liver cell
　　c. lymphocytes　　　　　　　　　　　　d. red cell

41. Macroarrays contain sample spot sizes of about _____ microns or larger and can be easily imaged by existing gel and blot scanners.
　　a. 100　　　　　　b. 200　　　　　　c. 300　　　　　　d. 400

42. *Microarray are typically less than _____ microns in diameter and these arrays usually contains thousands of spots*
　　a. 100　　　　　　b. 200　　　　　　c. 300　　　　　　d. 400

43. *A microarray consists of a glass slide onto which a large variety of _____ are placed in separate spots.*
　　a. DNA　　　　　　b. RNA　　　　　　c. mRNA　　　　　　d. cDNA

44. *The Southern Blotting is used for detection of*
　　a. DNA　　　　　　b. RNA　　　　　　c. mRNA　　　　　　d. cDNA

45. *The Western Blotting is used for detection of*
　　a. Oligonucleotide　　　　b. cDNA　　　　c. RNA　　　　d. Protein

46. *Cyclin A is a regulatory protein that associates with cdk2 during the _____ phase of the cell cycles*
　　a. M　　　　　　b. G1　　　　　　c. S　　　　　　d. G2

47. *p53, the guardian of the genome, mediates cellular responses to DNA damaging agents (eg. Ionizing radiation) at the _____ checkpoint*
　　a. M　　　　　　b. G1　　　　　　c. S　　　　　　d. G2

48. The term "apoptosis" was used to describe cell death with characteristic morphology since the year of
　　a. 1885　　　　　　b. 1951　　　　　　c. 1972　　　　　　d. 1988

49. *The Physiologic roles of apoptosis includes the following*
　　a. Homeostasis
　　b. Protection of organism from threats created by their own deleterious cell
　　c. Sculpting the body
　　d. All of the above

Question 50 -- 55 , answer (A) for apoptosis or (B) for Necrosis
50. *It is induced by physiological or pathological stimuli*

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51. *Its biological events include impairment or cessation of ion homeostasis*
52. *The process include activation of Caspases*
53. *The process include mitochodrial swelling*
54. *Usually inflammation is involved in the process*
55. *The dead cell in the process is phagocytosed by the celll nearby.*

Question 56 -- 60 ，

answer (A) for Disease associated with inhibition of apoptosis

answer (B) for Disease associated with increased apoptosis

56. *Ischemic injuries (eg. Myocardial infraction)*
57. *Sunburn*
58. *Viral infection*
59. *Cancer*
60. *Autoimmune disease*

61. Overall survival 是指那一段時間
    a. Diagnosis 到 Relapse
    b. Relapse 到 Death
    c. Diagnosis 到 Death
    d. 與 Relapse-free survival

62. 癌症的發生通常須時多久？
    a. 數週
    b. 數月
    c. 數年
    d. 以上皆可能

63. Tumor staging 的判定中最主要依據的是？
    a. Tumor size
    b. Lymph nodes
    c. Metastasis
    d. 以上皆是

64. 若有一動物腫瘤為 1g 重，在治療後殺死 99.999%(5)的 tumor cell 後，其所得下的 tumor cell 數及此動物仍有腫瘤的比例各為多少？
    a. 0，0%
    b. 10，50%
    c. 10^2，70%
    d. 10^4，100%

65. 目前鼻咽癌的治療方式為何？
    a. 放射治療
    b. 手術切除
    c. 化學治療
    d. 以上皆是

66. 下列何者非直接作用於 DNA 者
    a. Cyclophosphacinde
    b. Methotrexate
    c. Doxorubicin
    d. 5-Fu

67. 下列何種機制可造成 Drug resistance
    a. Drug metabolism
    b. Altered targets
    c. DNA repair
    d. 以上皆是

68. 目 tumor marker 可用於何種用途？
    a. 診斷
    b. 評估治療效果
    c. 追蹤檢查
    d. 以上皆是

69. Hormone therapy 的治療機制何者為非？
    a. DNA destruction
    b. Disruption at steroid synthesis
    c. Steroid Receptor Antagonists
    d. 以上皆是

70. Photo dynamic therapy 的作用機制主要為：
    a. damage cell membrane
    b. deleterious effects of DNA
    c. damage RNA
    d. 以上皆是

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71. 若接受完整的治療，colon ca 沒有轉移的狀況下其 5 年存活率為多少？
    a. 40%　　　　　　　　　　　　　　b. 60%
    c. 80%　　　　　　　　　　　　　　d. 100%

72. Cell cycle 中何種 stage 對 RT 最敏感？ $<A>G_1$　　$<B>S$　　$<C>G_2$　　$<D>M$
    a. A and B　　　　　　　　　　　　b. B and C
    c. C and D　　　　　　　　　　　　d. D and A

73. 各種 chemotherapentic drugs 的作用部位不同而 Alkylating agent 的作用位置為：
    a. DNA　　　　　　　　　　　　　　b. RNA
    c. membrane　　　　　　　　　　　　d. protein

74. Hormone therapy 可用於下列何種 cancer 的治療？
    a. Brain cancer　　　　　　　　　　b. Prostate cancer
    c. Testis cancer　　　　　　　　　　d. 以上皆是

二、填充題：

Inherited disorders linking DNA repair defects with carcinogenesis.

Condition	Characteristics	Defect
Xeroderma pigmentosum	Sensitivity to ultraviolet light Increased risk of ___75___	76
Bloom's syndrome	Chromosome fragility Increased risk of leukaemia and lymphoma	77
___78___	Sensitivity to radiation Neurological and immune defects Increased risk of leukaemia and lymphoma	DNA processing or damage control
Fanconi's anaemia	Chromosome fragility Increased risk of___79___	?
Li-Fraumeni syndrome	Multiple cancers	80
___81___ (hereditary non-polyposis colon cancer	Multiple cancers	Mismatch repair

答案請寫於最後一張之答案空格內，且只需繳回答案卷即可。謝謝！

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一、選擇題：

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74						

二、填充題：

75、_____

76、_____

77、_____

78、_____

79、_____

80、_____

81、_____