

MAMMO

1. What is the pixel size for resolution 10 lp/mm with digital mammography ?

- a) 0.1 mm
- b) 0.5 mm
- c) 0.01 mm
- d) 0.05 mm

2. Before 1960s, which one is used to for mammography ?

- a) Xeromammography
- b) Breast Sonography
- c) Conventional X-ray unit
- d) Screen-Film Mammography

3. Which is the most effective mixture for Target/Filter ?

- a) Mo/Mo
- b) Mo/Rh
- c) Rh/Rh
- d) Rh/Mo

4. What is the effect of Using cooling oil and glass enclosure?

- a) inherent filtration
- b) added filtration
- c) compensated filtration
- d) external filtration

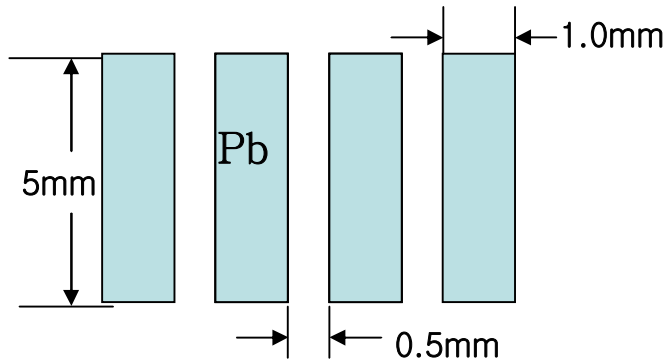
5. Taking routine mammography, what is the CORRECT focal spot size ?

- a) 0.01mm
- b) 0.03mm
- c) 0.1mm
- d) 0.3mm

6. The electricity is failed during the examination, which is CORRECT answer for handling of compression device ?

- a) can not release compression paddle, carefully removed patient's breast
- b) use manual switch than released compression paddle
- c) automatically released compression power, ease to care of patient
- d) under electricity fail, compression switch is made automatically working

7. CORRECT Grid ratio ?



- a) 2:1
c) 10:1
 b) 5:1
 d) 16:1

8. Which is CORRECT answer when Anode Target angle reducing?

1. marked decrease Anode Heel Effect
2. Effect for focal spot size reducing
3. Increasing cathode Photon strength in X-ray Tube

- a) 1, 2 b) 1, 3 **c) 2, 3** d) 1, 2, 3

9. What is the lesion for collimation at film full field?

- a) ineffective to eliminate scattered ray
 b) reducing exposure dose
 c) cause of collimator shape
d) covering the illuminator lights

10. What is the CORRECT answer for reducing Quantum Mottle?

- a) Decreased mAs, decreased kVp, fast speed screen
b) Increased mAs, decreased kVp, slow speed screen
 c) Decreased mAs, increased kVp, fast speed screen
 d) Increased mAs, increased kVp, slow speed screen

11. Which is the CORRECT answer for SID ?

1. SID is more than 55cm
2. less than 55cm for magnification
3. in general used 60~70cm

- a) 1, 2 **b) 1, 3** c) 2, 3 d) 1, 2, 3

12. What is the **advantage** of Digital Radiography?

1. easy to eliminate Noise
2. wide and linear react Dynamic Range
3. using multiple processing and get a useful information for diagnosis
4. low DQE for reducing exposure dose

a) 1, 2, 3

b) 2, 3, 4

c) 1, 3, 4

d) 1, 2, 4

13. Which equipment has the highest image resolution?

a) Xeromammography

b) C-R mammography

c) D-R mammography

d) Film-screen mammography

14. Who is the first dedicated mammography with low-KVp and high mAs?

a) Robert Egan

b) Albert Salomon

c) Stafford Warren

d) Raul Leborgne

15. What is the useful device for facilitate mammography positioning?

a) C-arm

b) AEC

c) Collimator

d) Compression Device

16. Which is the **CORRECT** answer of Line Focus Principle?

a) relation for actual focal spot and effective focal spot

b) Grid ratio and inch per line ratio

c) SID and its result of density relation

d) Film exposure and its result of density relation

17. Which one is **CORRECT** factor of Grid for improving radiographic contrast?

a) high ratio Grid, high Pb per inch

b) low ratio Grid, high Pb per inch

c) high ratio Grid, low Pb per inch

d) low ratio Grid, low Pb per inch

18. The CORRECT Point Processing is?

- A) It is a method of imaging processes that makes new pixel values by using around pixel values.
- B) It is a method that getting an image from change of X-ray wave coming through human tissue.
- C) It is a method of imaging processes that is used when change a location or size and so on of image.
- D) It is Look Up Table that typical thing of the method when is used for change of pixel's own size values.

19. What does it means for minimum reacting time of Automatic Exposure Control ?

- a) as short as the exposure time
- b) Tube protection from over heating
- c) patient protection from over exposure
- d) requisite time for getting the energy for intensifying phosphors

20. What is result for reducing the kVp and increasing the mAs?

- 1. High Contrast
- 2. increased expose dose
- 3. increased exposure time

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

21. Number of mammary duct is ?

- a) 5-10
- b) 15-20
- c) 25-30
- d) 35-40

22. Normal axillary lymph nodes are less than,

- a) 20mm
- b) 25mm
- c) 30mm
- d) 35mm

23. The majority of breast cancer occur in ?

- a) TDLU
- b) subareolar
- c) stroma
- d) subcutaneous fat

24. Which is INCORRECT of breast lymph node group?

- a) axillary node
- b) transpectoral node
- c) internal mammary node
- d) deep cervical node

25. Which one is INCORRECT of the supportive muscle of the breast?

- a) Deltoid muscle
- b) serratus anterior muscle
- c) pectoralis major muscle
- d) pectoralis minor muscle

26. The supportive structures of the breast is?

- 1. Skin, Nipple, Subareolar
- 2. Pectoralis major muscle
- 3. parenchyma
- 4. retromammary region
- 5. Cooper's ligaments

- a) 1, 2
- b) 3, 4
- c) 2, 5
- d) 2, 3

27. The largest vessel branch of the breast is?

- a) Azygos Vein
- b) Axillary Vein
- c) Intercostal Vein
- d) Internal Mammary Vein

28. this is a part of breast tissue which extends toward the axilla, the name is ?

- a) Pectoralis Muscfe
- b) Spence's Tail
- c) Coopers Ligament
- d) Retinacula Cutis

29. Which is CORRECT answer for hormonal effect of breast function?

- a) Estrogen-during the pregnant secreting from anterior pituitary, developed breast tissue & duct, stimulates milk secretion
- b) Oxytocin-to supply breast milk as a amino acid, fatty acid, glucose, calcium
- c) Prolactin-growth milk duct
- d) Progesterone-developed epithelial cell of milk duct and lobule, stimulates acinar cell growth during the pregnant

30. On the mammogram, what is to distinguish vessel from mammary duct?

- a) direction
- b) length
- c) distribution
- d) diameter

31. Malignant disease is?

- a) Hamartoma
- b) Paget's Disease**
- c) Adeno fibrolipoma
- d) Atypical ductal hyperplasia

32. Which one is CORRECT answer about Male breast cancer?.

- a) almost of all are acinar carcinoma
- b) prognosis is different from female breast cancer
- c) no difference of pathological pattern from female breast cancer**
- d) usually located chest wall without necrosis

33. The smooth, circular darkening surrounding the nipple and contains many small protrusions on its surface, what is this?

- a) areola**
- b) skin
- c) ampulla acinus
- d) Montgomery gland

34. INCORRECT type of fibroepithelioma?

- a) papilloma**
- b) pilloid tumor
- c) fibroadenoma
- d) Juvenile fibroadenoma

35. In statistically, one of the quadrant is the lowest lesion occur,

- a) upper outer quadrant
- b) upper inner quadrant
- c) lower outer quadrant
- d) lower inner quadrant**

36. Ductal ampulla diameter is (A), milk duct diameter around the nipple is (B),

- | A | B |
|-----------------------|------------------|
| a) 1.4~1.7 mm, | 0.3~1.0mm |
| b) 1.5~2.0 mm, | 0.1~0.5mm |
| c) 2.4~3.5 mm, | 0.5~1.5mm |
| d) 2.0~4.5 mm, | 0.4~0.7mm |

37. main metastasis route of breast cancer is ?

- a) lactation
- b) lymphatic vessel**
- c) blood flow
- d) fat tissue modification

38. INCORRECT for Character of breast malignant neoplasm is?

- a) tissue with capsule
- b) rapid cell growth
- c) lymph node metastasis
- d) growth with infiltration

39. INCORRECT for using radiation for the breast cancer radiotherapy,

- a) Linear accelerator Photon-ray
- b) Linear accelerator Electron-ray
- c) Brachytherapy Gamma ray
- d) Gamma Knife Gamma ray

40. Have not to consider the lymph node during radiotherapy, which is?

- a) axillary nodes
- b) pectoral nodes
- c) submandibular nodes
- d) supraclavicular nodes

41. Which is INCORRECT the consideration for mammography,

- a) breast volume
- b) breast tissue distribution diversity
- c) patient status, period of menstruation, period of lactation
- d) patient's compression fear

42. What is INCORRECT about resisted mammographer?

- A) Ask cooperation after explain about how much important of compression.
- B) Inaccuracy can make mistake that miss region.
- C) Provide accurate information with technical term.
- D) Reduce patient' anxiety by explain simply and nicely.

43. What is the one NOT to be in history taking note?

- A) Number of children
- B) family relations
- C) Experience of having mammography
- D) Have foreign object or not in body.

44. What is NOT except contraindication patient for mammography?

- A) Breast-feeding women
- B) Pregnant women
- C) Menopause women
- D) Young patient of twenty

45. What is the CORRECT about limit of mammography?

- A) Dense breast
- B) male breast
- C) small breast
- D) Region is around of nipple

46. What is the CORRECT about basic guide for mammography?

- A) Pregnant woman do not have examination.
- B) Have a follow-up after biopsy.**
- C) A patient who is under 25 does not have examination.
- D) If a patient had prosthesis, would remove it and take once.

47. What is the good reason to do compression?

- A) Decrease contrast.
- B) Increase dose.
- C) Increase scattered rays.
- D) Decrease unshrpness**

48. What is the minimum range of compress pressure?

- A) 15lb
- B) 25lb**
- C) 35lb
- D) 30lb

49. When is the good timing during ovulation cycle for breast self exam(BSE)?

- A) During menstruation.
- B) ovulatory phase.
- C) After 1 week of finishing menstruation.**
- D) Before 1 week starting menstruation.

50. What is the CORRECT about self test of breast?

- A) No need to do self test after menopause.
- B) Check skin of breast.**
- C) No need to do self test when women do not have ovary.
- D) Do it within 1 week after finishing menstruation every year.

51. What is the CORRECT?

- A) A patient information is a just recommend option.
- B) mAs, kVp and compress pressure is a just recommend option.
- C) Marking method is located upper side of axillary.**
- D) Marking angle of MLO and equipment is just recommend option.

52. What is the CORRECT about marking process of below on image?

- | |
|--|
| <ol style="list-style-type: none">1. R(Right)2. ID(Implant displaced)3. M(Magnification)4. CC(Craniocaudal) |
|--|

- A) 1-2-3-4
- B) 3-1-4-2
- C) 1-3-4-2**
- D) 3-2-1-4

53. What is the black mark of image standards for evaluation?

- A) Include medial breast tissue.
- B) True lateral image of nipple is shown middle of breast.
- C) Include a lot of retromammary fat
- D) Length of nipple back line compare with mammography. So the deference of them is more than 1cm.

54. What is the COREECT about basic mammography?

- A) Mark CC and MLO.
- B) Do not include pectoralis major muscle on CC.
- C) Nipple has to be center of the film.
- D) MLO is for medial tissue.

55. Which method of mammography can include maximum tissue of breast?

- A) caudocranial view
- B) mediolateral view
- C) Axillary tail view
- D) mediolateral oblique view

56. When abnormal shadow inside of medial breast is shown up on CC view, which examination will be taken?

- A) Lumpogram
- B) Cleavage view
- C) Axillary tail view
- D) Exaggerated lateral view.

57. What is the INCORRECT about Tangential projection?

- A) Take examination by rolling breast.
- B) Mark R TAN and L TAN
- C) Purpose of it is checking out calcification location of a patient diagnosis for DCIS.
- D) Take examination when the touched region around mammary gland tissue is not clealy.

58. What is NOT a good method for breast-feeding woman who needs having mammography?

- A) Suitable compression.
- B) Use collimation.
- C) Use Rhodium target.
- D) Increase kVp – reduce mAs

59. What is the CORRECT about mammography for male?

- A) Needs more compression than others.
- B) Must include pectoralis muscle on CC view.
- C) Sometimes craniocaudal view is taken caudocranial direction.
- D) Include minimum pectoralis muscle on MLO view. Because breast parenchyma is small and pectoralis muscle is big.

60. What is the CORRECT about examination for young women who is very tiny and has fatty breast without breast parenchyma?

- A) Increase kVp
- B) Use a Rhodium target.
- C) Control collimation by region size
- D) When take mammography, do not make wrinkles on region of examination.

61. What is not a indication of galactography?

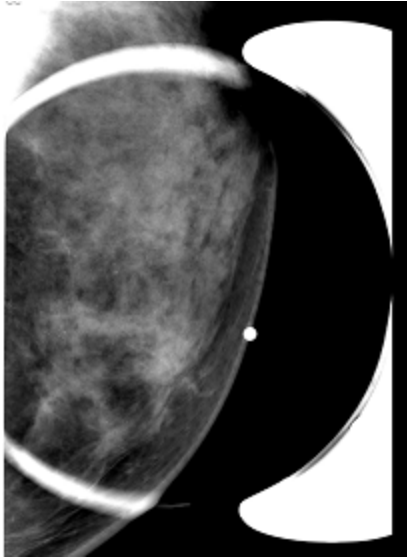
- A) Papilloma
- B) Carcinoma
- C) Ductalectasis
- D) Milk of calcium

62. What method is explained ?

Can see sinking micro calcification
Be of help to a examination for patient who had a thoracic surgery.
Can be used to a examination for a patient who put a prosthesis

- A) CC Projection
- B) Lateral projection
- C) MLO projection
- D) Spot compression projection

63. What is INCORRECT about the image below?



- A) Take with small focus.
- B) Use 5:1 grid.
- C) Can take a 2 magnification.
- D) Can know about number and shape of calcification.

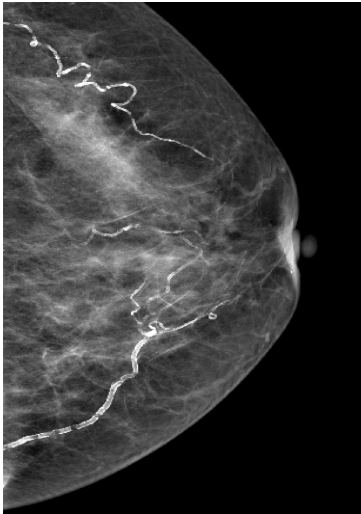
64. What is the one not to use special marking method?

- A) Cleavage
- B) Magnification
- C) Axillary Tail
- D) Spot compression

65. What is the CORRECT about Implant displacement(ID)?

- A) Include axillary enough.
- B) Take a examination after removing total prosthesis.
- C) Take other examination except basic breast examination to all patient who had breast plastic surgery.
- D) **If prosthesis do not move to back side, would take 90 degree lateral examination for good measure.**

66. What is the CORRECT about the image below?



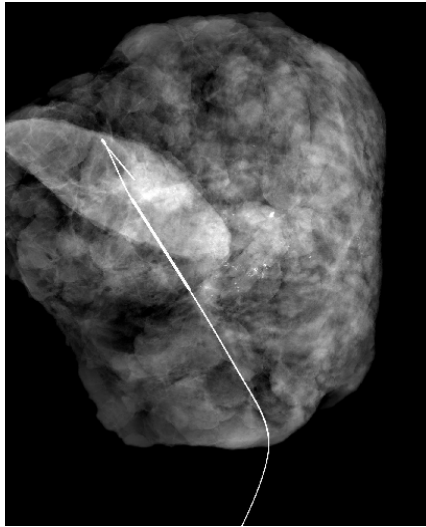
- A) A follow-up every 6 months
- B) Take a 1.8 magnification.
- C) A calcification vessel.
- D) Linear calcification

67. What is the CORRECT about the image below?



- A) Use j-wire, hook-wire.
- B) Method for wide excision.
- C) good for approaching by Craniocaudal.
- D) It is a examination for region can be touched.

68. What is the CORRECT?



- A) Take a examination after compression.
- B) Take a examination as a Auto exposure.
- C) Take a examination with angle.
- D) Specimen Radiography

69. What is the examination that remove total region?

- A) FNAC
- B) ABBI - BIOPSY
- C) MAMMOTOME
- D) CORE – BIOPSY

70. What is the CORRECT about Fine Needle Aspiration Cytology?

- A) Before localization technique, have it in the outpatient clinic.
- B) Cancer metastasis possibility can be high because of rout of fine needle.
- C) guided methods are digital exploration, ultrasonography and biopsy.
- D) It use very fine needle for examination of lumpectomy can be thouched.

71. What is NOT a organ that get remote metastasis well?

- A) Lung
- B) liver
- C) thyroid
- D) bone

72. What is the lowest score of image evaluation?

- A) Reading is possible even without bright light, no skin overlap and include a lot of breast back fat.
- B) Be shown wrinkle of under breast, if used light, breast tissue would be shown well and cannot see grid lines.
- C) No scratch, no use collimation and nipples is true lateral position image.
- D) Under breast is too overlap, a nipple back line length is within 1cm compare with MLO view's one.

73. What is the deference one of decision standard of tumor in breast?

- A) Oval B) Lobulated C) Spiculated D) Well-circumscribed

74. What is the misunderstood one about Overall Assessment of BI-RADS?

- A) Category0 is a normal opinion and has low risk of breast cancer.
B) Category1 is a normal opinion and needs regular checkup.
C) Category2 is a benign opinion and needs regular checkup.
D) Category3 is a benign expectation opinion and needs a short term follow-up.

75. Benign cystic space in lactiferous drifts be made by changing hormone every month, what is the name of this structure?

- A) fibroadenoma B) fibrocystic change
C) gynecomastia D) mastorrhagia

76. Which part disease is Paget's disease?

- A) Nipple B) Skin
C) TDLU D) Tail of Spence

77. That shows general location decision method of breast. What is the CORRECT?

- | |
|--|
| 1. Skin marking
2. Mammotom
3. Dye injection |
|--|

- A) 1 B) 1,3 C) 2,3 D) 1,2,3

78. What is the CORRECT about a follow-up after surgery of progressive breast cancer?

- A) Do a medical examination by interview and having a checkup every 3~6 months for first 5 years.
B) Having other examinations before surgery have every 1 year for 5 years.
C) Have a Ultrasonography every 6 months for first 10 years after surgery.
D) Have a mammography every 3~6 months for first 5 years after surgery.

79. What is the cancer type of 80% of whole breast cancer?

- A) mucinous carcinoma
B) ductal carcinoma in situ.
C) invasive ductal carcinoma
D) invasive lobular carcinoma

80. What is the CORRECT about papilloma?

- A) That is a benign disease occurs in nipples.
- B) That is a malignant disease occurs in nipples.
- C) That is a benign disease occurs in lactiferous drifts.
- D) That is a malignant disease occurs in lactiferous drifts.

81. What is the INCORRECT about breast composition of Breast Image Reporting & Data System(BI-RADS)?

- A) extremely dense breast
- B) almost entirely fat breast
- C) heterogladular dense breast
- D) scattered fibrogadular dense breast

82. What is the grade 0 breast cancer?

- A) DCIS(ductal carcinoma in situ.)
- B) IDC(invasive ductal carcinoma)
- C) papillary apocrine metaplasia
- D) fat necrosis

83. What is NOT a typical symptom?

- A) palpable mass
- B) nipple discharge
- C) skin change
- D) tenderness

84. What is the CORRECT about breast conserving surgery(BCS)?

- A) BCS makes good prognosis when tumor is under 3cm size, not multiple and be near areola mammae.
- B) If there was not metastasis to axially lymph node, would treat with only hormone therapy without radiation therapy and chemotherapy.
- C) If there was metastasis to axially lymph node, would treat with only radiation therapy after removing a part of breast and total axially lymph node.
- D) Sometimes do minimum surgical removal or no need to surgical removal at all. Because of coming in a sentinel lymph node examination.

85. What is the CORRECT about hormone therapy for breast cancer?

- A) The incidence of uterine cancer can be decreasing.
- B) The effect is good when the hormone receptor is positive.
- C) This is the therapy that makes activity of female sex hormone be actively.
- D) If taking tamoxifen long time, bone density would be increase.

86. What is the best diagnostic examination for fibroadenoma of breast cancer?

- A) Mammography
- B) CT
- C) Sonography
- D) PET

87. What is the highest score of image evaluation?

- A) True lateral image of nipple, notice of examination date and one finger print.
- B) The five of point artifact, pectoralis major muscle form is shown convex form and there is a little skin overlap.
- C) **A nipple is in the breast tissue, there is no image blurring and notice cassette number.**
- D) Distinguishing clearly between mammary gland and fat, under the breast is quite firm and paper notice on the image.

88. What is the INCORRECT diagnostic examination for breast calcification?

- A) Stereotactic biopsy
- B) Localization
- C) **Gun biopsy**
- D) Magnification

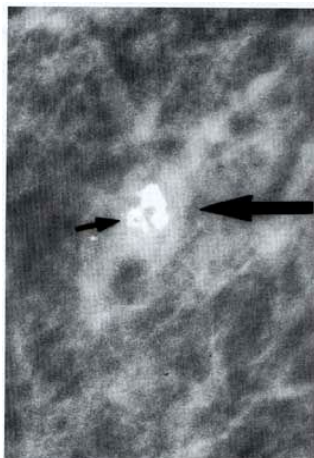
89. Which one can be Typically benign calcification?

- A) **Punctate calcification**
- B) Pleomorphic calcifications
- C) Fine Linear branching calcifications
- D) Amorphous or Indistinct calcifications

90. What is the benign calcification occurred by Fibroadenoma being atrophied on the image?



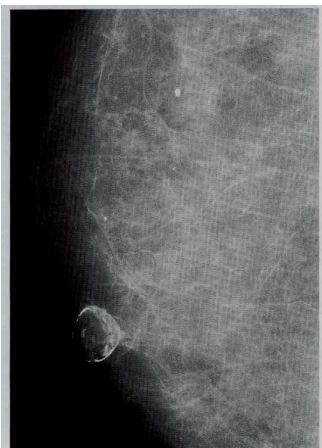
A)



B)



C)



D)

1. Which of the following is the one who converted X-ray equipment into mammography equipment and used Low-kVp and High mAs technique?

- A) Robert Egan
- B) Stafford Warren
- C) Albert Salomon
- D) Raul Leborgne

2. Which of the following is the pixel size to indicate 10 lp/mm resolution in the digital mammography?

- A) 0.1mm B) 0.5mm C) 0.01mm D) 0.05mm

3. Which of following is the best combination of Anode/Filter to improve contrast when you examine mammography for the average size of breast?

- A) Mo/Mo B) Mo/Rh C) Rh/Rh D) Rh/Mo

4. Which of the following is the direct motivation that made popularization of Screening Mammography?

- A) Development of Moving grid
- B) Development of Foot pedal
- C) Development of Micro-focal spot
- D) Development of Automatic Exposure Timer

5. Which of the following is the filtering effect for cover of the glass of the X-ray tube and cooling oil?

- A) Inherent filtering
- B) Additional filtering
- C) Compensational filtering
- D) Outside filtering

6. Which of the following is NOT the method to improve resolution?

- A) Using the micro-focus spot.
- B) Using the long exposure time.
- C) Being the long distance of film-focus.
- D) Using the low sensitivity screen and film.

7. What can make the mammography in a variety of ways?

- A) C-arm B) AEC
- C) Collimator D) Compression Device

8. Which of following is the best combination of Anode/Filter to reduce patient X-ray dose to be minimum?

A) Mo/Mo B) Mo/Rh **C) Rh/Rh** D) Rh/M

9. What is the focus size of the basic examination that be used widely in mammography?

A) 0.6mm **B) 0.3mm** C) 0.06mm D) 0.03mm

10. Which of the following is NOT the component that is needed as a mammography?

A) Breast compression tool B) Rotatable C-arm
C) Auto Exposure Controller **D) Fixed grid.**

11. Why should the chest wall be Cathode of X-ray tube in mammography?

A) Anode Heel Effect
B) Line Focus Principle
C) Filament Heat Unit
D) Anode Target Material

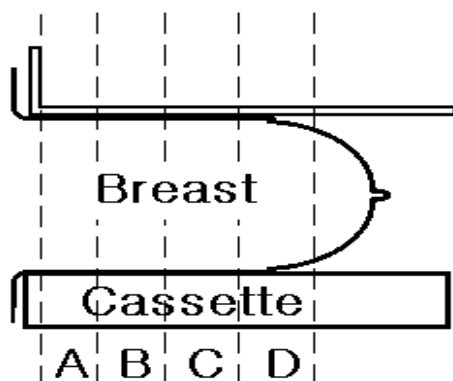
12. Which of the following is true about factor of grid contrast enhancement?

A) High rate grid of many lead per inch.
B) Low rate grid of many lead per inch.
C) High rate grid of little lead per inch.
D) Low rate grid of little lead per inch.

13. What is the minimum range of compression power?

A) 15lb **B) 25lb** C) 35lb D) 30lb

14. Where is the right place for Auto Exposure Controller when the examination is taken in compression like the following picture?



A) A B) B **C) C** D) D

15. Which of the following is about the real area where the electron collides with target?

A) Actual Focus B) Focus C) Effective Focus D) Nominal Focus

16. How can mAs be controlled in AEC system when using low sensitivity film and screen instead of using film and screen as usual in mammography?

- A) Increasing mAs. B) Increasing mAs and kVp. C) Decreasing mAs. D) Same mAs as usual.

17. Which of the following is true for reducing Quantum Mottle?

- A) Decreased mAs, decreased kVp, fast speed screen
B) Increased mAs, decreased kVp, slow speed screen
C) Decreased mAs, increased kVp, fast speed screen
D) Increased mAs, increased kVp, slow speed screen

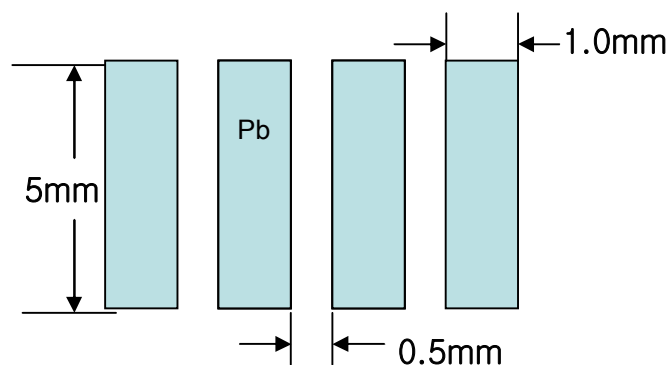
18. Which of the following is true about the relation factor of scattering rays?

- A) Material of target B) kVp C) Breast compression D) Filtering

19. Which of the following is true about Line focus principle?

- A) The relation between actual focus and effective focus
B) Rate of grid and rate of line per inch
C) The relation between SID and density due to the result from SID.
D) The relation between exposure to film and density due to the result from exposure.

20. What is the rate of grid that following picture is describing?



- A) 2:1 B) 5:1
C) 10:1 D) 16:1

21. Which of the following is NOT the factor that affects image contrast?

- A) The thickness and size of breast
- B) The distance between focus and breast**
- C) The developer
- D) The compression power of breast

22. Which of the following is NOT factor that affects quality of digital breast image?

- A) MTF
- B) DQE
- C) The size of detector**
- D) The size of pixel/picth

23. What is the minimum rotational angle of C-arm in mammography equipment?

- A) 150° for one way and over 150° for the other way
- B) 180° for one way and over 150° for the other way**
- C) 180° for one way and over 180° for the other way
- D) 180° for one way and over 360° for the other way

24. What do the double emulsion film need one layer more than one side emulsion film, for mammography?

- A) Film base
- B) Antihalation backing**
- C) emulsion layer
- D) Protective layer

25. Which of the following is true about the point processing?

- A) It is a method of the image processing that creates new pixel value by using around pixel value.
- B) It is a method that you can get as a image about changing of X-ray wave passed through tissue.
- C) It is used when changing image's place and size.
- D) Look Up Table is used when you want to change the pixel size value.**

26. What is the number of the mammary gland normally?

- A) 5-10
- B) 15-20**
- C) 25-30
- D) 35-40

27. What is the normal size of the axillary lymph node compared with abnormal?

- A) 20mm**
- B) 25mm
- C) 30mm
- D) 35mm

28. Where is the primary part of carcinoma and infiltrating cancer of the mammary gland and lobule?

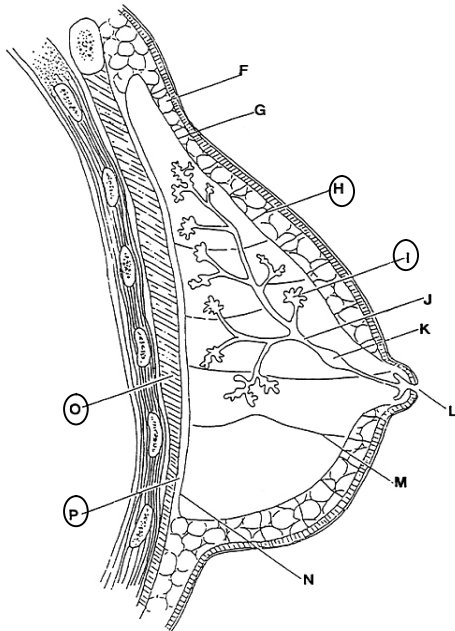
- A) TDLU**
- B) Subareolar
- C) Stroma
- D) Subcutaneous fat

29. What is the biggest vein in the brest?

- A) Azygos Vein
- B) Axillary Vein
- C) Intercostal Vein

D) Internal Mammary Vein

30. What is the structure that supports breast shape and helps motion flexibility?



- A) H B) I C) P D) O

31. Which of the following is the function of the Montgomery Gland?

- A) Evacuatory function B) Stimulate function
C) Stabilization function D) Lubrication function

32. Which of the following is correct?

- A) Estrogen – When pregnant, it is secreted from the pituitary anterior lobe, makes breast develop and promotes the lactation
B) Oxytocin – supply amino acid, fatty acid, glucose and calcium to milk
C) Prolactin – makes the galactophore be longer and adenoid tissue increase
D) Progesterone – makes galactophore and Epithelium of lobules increase and when pregnant, it promotes the development of acinus

33. Which of the following is the malignant disease?

- A) Hamartoma B) Pajet's disease C) Adenofibrolipoma D) Atypical ductal hyperplasia

34. Lymph node is divided into 3 groups. Which of the following is NOT include there ?

- A) Axillary node B) transpectoral node
C) deep cervical node D) internal mammary node

35. Where is the part of breast for the lowest incidence of breast cancer?

- A) Upper outer quadrant
- B) Upper inner quadrant
- C) (Lower outer quadrant
- D) Lower inner quadrant

36. Which of the following is the breast tissue reached to axillary?

- A) Pectoralis Muscle
- B) Spence's Tail
- C) Coopers Ligament
- D) Retinacula Cutis

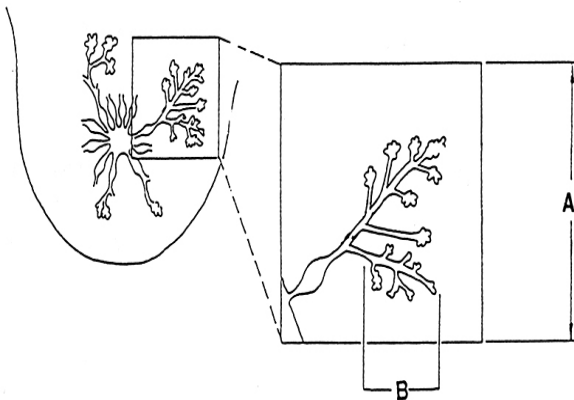
37. Which of the following is true about the Papilloma?

- A) It is a benign disease from the nipple.
- B) It is a malignance disease from the nipple.
- C) It is a benign disease from the mammary gland.
- D) It is a malignance disease from mammary gland.

38. Which of the following is NOT the main muscle around breast?

- A) Deltoid muscle
- B) Pectoralis major muscle
- C) Pectoralis minor muscle
- D) Serratus anterior muscle

39. What is the correct anatomic for A and B?



- A) A = Main duct
- B) Ductules
- B) A = Lobe,
- B = Lobule
- C) A = Areola
- B = Lobe
- D) A = Duct orifice
- B = Ductules

40. Which of the following is NOT finding about Fibrocystic change?

- A) Involution of lobule
- B) Dilatation of acini
- C) Slight fibrosis
- D) Apocrine metaplasia

41. What is the most important biological factor for metastasis of breast malignant disease?

- A) Lactation B) **lymph node** C) Blood flow D) Variation of fat tissue

42. Which of the following is the correct combination that supplies structure of breast?

- | |
|--|
| <ol style="list-style-type: none">1. Skin, Nipple, Subareolar2. Pectoralis major3. Parenchyma4. Retromammary region5. Cooper's ligaments |
|--|

- A) 1, 2 B) 3, 4 C) **2, 5** D) 2, 3

43. Which of the following is the correct about the anatomy of the colored circular structure around the nipple?

- A) Montgomery gland B) Skin
C) **Areola** D) Ampulla

44. Which of the following is NOT true about Involution of breast tissue?

- A) Breast tissue trances to fat tissue.
B) The time of starting involution is the time of menopause.
C) **The number of the lobe of inside breast is getting to reduce dramatically.**
D) The supporting tissue lose elasticity when the breast tissue involutes unrelated to individual differences in breast size.

45. Which of the following does NOT include as a fibroepithelioma?

- A) **Papilloma**
B) Pilloid tumor
C) Fibroadenoma
D) Juvenile fibroadenoma)

46. Which of the following is true about the male breast cancer?

- A) It is 5% of whole breast cancer.
B) **The gynecomastia is shown one side or both side.**
C) The disease can cause a lot around the armpit.
D) It can be affected from female hormone.

47. Which of the following is the correct combination that makes up breast tissue?

- A) stroma, Parenchyma, fat B) stroma, Parenchyma, alveolus
- C) intrainterlobula connective tissue, Lobulus, fat
- D) Interstitial tissue, intrainterlobula connective tissue , fat

48. The lobe is extended under areola with each mammary gland of a diameter of (a), and is called as a lactiferous ampulla. The mammary gland is contracted around the nipple and shown out of nipple with a diameter of (b). Which of the following is correct?

- | a | b |
|---------------|-----------|
| A) 1.4~1.7 mm | 0.3~1.0mm |
| B) 1.5~2.0 mm | 0.1~0.5mm |
| C) 2.4~3.5 mm | 0.5~1.5mm |
| D) 2.0~4.5 mm | 0.4~0.7mm |

49. What are the biggest vein and artery of breast vessels?

- A) Intercostal V – subscapular A
- B) Internal mammary V - internal mammary A
- C) Vertebral V – axillary A
- D) Cephalic V – circumflex scapular A

50. Which of the following is NOT correct about the location of breast in our body?

- A) The top of the breast is on T-spin 7 / rib 1.
- B) The top of the breast is on the rib 6 to 7
- C) The outer boundary of the breast is Latissimus dorsi muscle.
- D) The medial boundary of the breast is middle of sternum.

51. Which of the following does NOT include as a Diagnostic Mammography?

- A) The case examined with touchable mass.
- B) The case rechecked due to the dense breast.
- C) The case had Bloody discharge on the other breast
- D) The mammography examined in abnormal finding at screening test

52. Which of the following is true about view conditions for finding?

- A) What the reading room is dark as much as possible is helpful for reading.
- B) When you install the two viewbox in one reading room, they are installed facing.
- C) The brightness of viewbox should not be over 3500nit.
- D) It is easy to find foreign on the film when the light of reading room is back of radiologist.

53. Which of the following is correct order on the image?

- | |
|--|
| <ol style="list-style-type: none">1. R(Right)2. ID(Implant displaced)3. M(Magnification)4. CC(Craniocaudal) |
|--|

- A) 1-2-3-4 B) 3-1-4-2
C) 1-3-4-2 D) 3-2-1-4

54. Which of the following is true?

- A) Did not compression because the breast was so hard.
B) When the mammography is performed before menstruation, the pain is lessened.
C) When the mammography of specimen is performed, compression could be done.
D) When the patient who have had particular mastectomy has mammography, you choose dose by manual.

55. Which of the following is NOT correct method for diagnosis breast cancer?

- A) Elastography
B) BSE(breast self exam)
C) High resolution CT
D) CBE(clinical breast exam)

56. Which of the following is NOT true about breast self exam?

- A) Doing it after finishing menstruation every month.
B) Compare nipple shape that is not changed.
C) Doing digital exploration with 2,3,4 fingers in clockwise.
D) Doing it every month after removing ovary or coming menopause naturally.

57. Which of the following is no need to observation, when the breast self exam is done?

- A) skin B) the size of breast C) the location of breast D) the discharge of breast

58. Which of the following is NOT true about mammography follow-up case?

- A) Insertion implant
B) Fibroadenoma
C) Microcalcification
D) After biopsy

59. Which of the following is NOT true about MLO?

- A) Should include the pectoralis major muscle even though some of the breast tissue is lost.
- B) Matching the angle of the pectoralis major muscle and the angle of the detector.
- C) Should include the IMF in unfold.
- D) It can be hard to include pectoralis major muscle of the patient who have had BCS.

60. Which of the following is NOT adoptable about performing of Galactography?

- A) Bloody secretions
- B) Clear liquid discharge
- C) Prolactin secretion
- D) Discharge of pus

61. Which of following must show on the Mammography?

- | |
|---|
| <ol style="list-style-type: none">1. The date of Examination2. The number of cassette3. The name of examiner4. The strength of compress5. The exposure method6. The direction of left or right |
|---|

- A) all
- B) 1, 2, 3, 4
- C) 1, 4, 5, 6
- D) 1, 2, 3, 5, 6

62. Which of the following contains the most breast tissues?

- A) Axillary tail view
- B) Mediolateral view
- C) Craniocaudal view
- D) Mediolateral oblique view

63. What is the interest region of Cleavage view?

- A) Outer breast
- B) Upper breast
- C) Medial breast
- D) Axillary breast

64. Which of the following is true about Fine Needle Aspiration Cytology?

- A) Having it in the outpatient clinic before check mammo guide localization
- B) Along the find needle path likely to cancer metastasis.
- C) It is a examination for palpability mass and performed at general Surgery usually.
- D) There are Palpation and sonoguided biopsy for guide plane.

65. Which of the following is the most far from the side effects of wire needle localization?

- A) Rupture of lactiferous duct
- B) Response of vagus nerve system
- C) Contamination
- D) Pneumothorax

66. Which of the following is the most suitable lesion for Stereotactic biopsy?

- A) Papilloma
- B) Fibroadenoma
- C) Micro-calcification
- D) Malignant lymphoma

67. What is the aim of 90° lateral view?

- A) It is one of CC view.
- B) It is the method to prevent from the overlapping.
- C) It is the method to reduce the damage of lesion.
- D) It can understand the localization of depth, superior, and inferior of lesion.

68. What is the cancer of 80% in whole breast cancer?

- A) mucinous carcinoma
- B) ductal carcinoma in situ
- C) invasive ductal carcinoma
- D) invasive lobular carcinoma

69. Which of the following is correct about Epithelial hyperplasia?

- A) It means the calcification of hematoma due to trauma.
- B) It means epithelial hyperplasia of oil gland in the skin.
- C) It means epithelial hyperplasia of lactiferous or lobule as a vegetation breast disease.
- D) It means epithelial hyperplasia of pectoralis major muscle or lobule cell as a vegetation breast disease.

70. What is “Probably benign – short interval follow-up suggested” in the overall impression of BI-RADSTM?

- A) category 1
- B) category 2
- C) category 3
- D) category 4

71. Which of the following is correct explanation about Magnification exposure?

- | |
|--|
| <ol style="list-style-type: none">1. no use Grid2. use small focus (0.1mm)3. examine after marking |
|--|

- A) 1 B) 1, 3 C) 2, 3 D) 1, 2, 3

72 Which of the following is the subtract point in the evaluation standard of image of CC view?

- A) It contains medial breast tissues.
- B) The contours of the nipple is shown on the middle of breast as a lateral view.
- C) Including retromammary fat of breast a lot.
- D) The difference between MLO and CC view is 1cm for a length of a back line of the nipple.

73. Which of the following can be the most classified typically benign calcification?

- A) Punctate calcification
- B) Pleomorphic calcifications
- C) Fine Linear branching calcifications
- D) Amorphous or Indistinct calcifications

74. Which of the following is NOT correct check list about the positioning in the evaluation of mammography?

- A) Nipple
- B) IMF fold

- C) Breast dropping
- D) compression force

75. Which of the following is correct explanation about the importance of compression?

1. Reduction of readiation dose
2. Uniform file density
3. Increase of geometric unsharpness
4. Reduction of Scattered ray by increased Kvp
5. Reduction of unsharpness by motion

- A) 1, 3, 5
- B) 2, 3, 4
- C) 1, 4, 5
- D) 1, 2, 5

76. Which of the following does NOT have in inquiry?

- A) Menstration cycle
- B) Eamination purpose
- C) Past examination history
- D) Skin scar

77. Which of the following is NOT correct explanation about mamary duct ectasia?

- A) It caused by involution and atrophy of mamary.
- B) Lactiferous wall became thin due to inflammation.
- C) It appears in large lactiferous duct including lactiferous sinus.
- D) It can be caused by primary mastadenitis aroud ducts.

78. Which of the following has the lowest onset rate of breast cancer analyzing the risk factors?

- A) A single woman who likes meat and exercise regularly
- B) A woman who had high density breast after early menarche and late menopause
- C) A 50 years old woman who has many children and underwent hysterectomy due to exacerbation of uterine myoma
- D) A 50 year old woman who is taking estrogen due to severe late postmenopausal sysdrome by early menopause

79. Which of the following is the correct method for those who has Asymptomatic finding?

- A) Gun - biopsy
- B) Ductography
- C) Mammotome
- D) Medication labeling method

80. Which of the following is NOT correct explanation about Implant displacement view?

- A) It can be called Eklund view.
- B) It uses Push-back method.
- C) It checks the fluidity of breast implant and performs.
- D) It can reduce the radiation dose only if Automatic Exposure Control system.

81. What is the name of SIO view?

- A) Superoinfero- to - Internal Oblique
- B) Superomedial - to - Implant Oblique
- C) Superomedial - to - Inferolateral Oblique
- D) Superolateral - to - Inferomedial Oblique

82. Which of the following is true about BCS?

- A) Prognosis is good, when the size of mass is under 3cm, the mass is not multiple and near areola.
- B) The case does not need to incision or need resection of at least, by introducing lymph node.
- C) If there is no metastasis on axillary Lymph node, no need radiation therapy and chemo therapy. Only do treatment with hormone therapy.
- D) If there is metastasis on axillary lymph node, remove some part of breast and do radiation therapy after total removal axillary lymph node.

83. Which of the following is NOT correct about adjuvant therapy after breast cancer operation?

- A) Chemotherapy
- B) Hormone therapy
- C) White blood cell vegetation factor (agent) therapy
- D) Autologous bone marrow transplantation

84. Which of the following is correct explanation about breast cancer?

- A) Mucinous carcinoma has good prognosis.
- B) It is called DCIS (ductal carcinoma in situ) or IDC (infiltrated ductal carcinoma) when mammary basement membrane is not passed.
- C) LCIS (lobula carcinoma in situ) is less calcification deposition and rare palpation.
- D) IDC (invasive ductal carcinoma) is the most popular breast cancer.

85. Which of the following is the correct explanation about TNM system?

- A) Nx: no local lymphatic gland metastasis
- B) Mo: remote metastasis including upper clavicle of body side lymphatic gland
- C) T2: over 2cm and less 5 cm of maximum length of breast
- D) T4: DCIS, LCIS

86. Which of the following is NOT true about specialized radiological technologist in mammography?

- A) Should explain simply, kindly and confidently.
- B) Should explain easily and clearly for the question from patient without using technical term
- C) During taking mammography, do palpation a lot and frequently.
- D) Getting information and symptom from the patient to be helpful at reading.

87. Which of the following is the correct evaluating standard for the malignancy?

- A) Irregular border
- B) Round, oval shape
- C) Homogeneous density
- D) Few scatter calcification

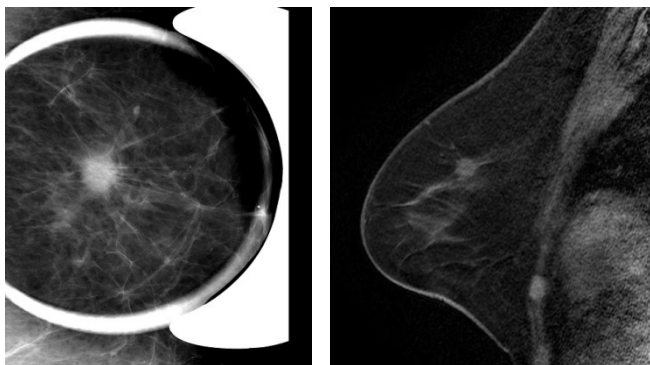
88. Which of the following is NOT correct explanation about breast Ultrasonography?

- A) It distinguishes malignancy by echo of tumor.
- B) It has advantages to distinguish micro calcification.
- C) It can evaluate the insertion of breast implant.
- D) It distinguishes malignancy with the shape of tumor.

89. Which of the following is NOT correct explanation about breast MRI?

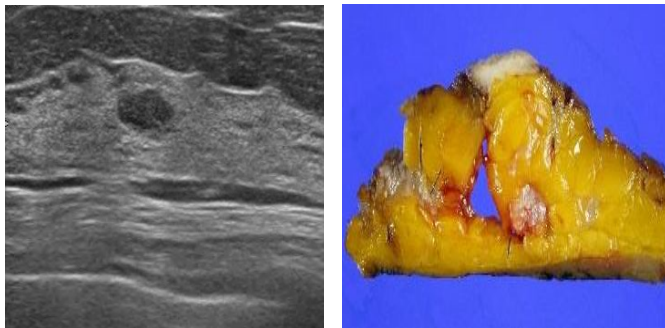
- A) MRS image enables to know multiplication of cells.
- B) It has the advantages to examine tumor and lymph node of breast.
- C) EPI technique can get flow images.
- D) Signal intensity is getting stronger in malignancy after contrast media is administered.

90. These images are diagnosed breast cancer. Which of following is different one from others?



A)

B)



C)

D)