

Question Booklet
Alpha Code

A

215/2014

Total Number of Questions: 100

Maximum Marks : 100

Time : 75 Minutes

INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank page of paper is attached to the question booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

215/2014-A



1. When do we celebrate Roentgen Day ?

(A) December 8th

(B) November 8th

(C) December 18th

(D) November 18th

2. SI Unit of Dose equivalent is

(A) Roentgen(R)

(B) Rad

(C) Sievert

(D) Rem

3. Which is not a member of Electromagnetic spectrum ?

(A) Sound

(B) Light

(C) Infrared

(D) Ultraviolet

4. Thermoluminescent Material used in TLD Badge

(A) Calcium Tungstate

(B) Calcium Fluoride

(C) Sodium Iodide

(D) Calcium Sulphate

5. Minimum distance recommended for the Safe light from Dry bench in Dark room

(A) 1.5 m

(B) 2 m

(C) 1 m

(D) 1.2 m

6. Phosphor used in Image Intensifier is

(A) Calcium fluoride

(B) Calcium Tungstate

(C) Cesium Iodide

(D) Sodium Iodide

7. CT Scan was invented by

(A) Benjamin Felson

(B) G.N. Hounsfield

(C) Gustave Bucky

(D) Ruther Ford

8. Frequency Ultra sound used in Medical practice
(A) 1-15 MHz (B) 0-20 KHz
(C) 20-50 MHz (D) 20-50 KHz
9. Slip-ring Technology is associated with
(A) MRI (B) Spiral CT Scan
(C) DSA (D) Ultra Sound
10. CT Number of water
(A) 0 (B) 20
(C) 50-100 (D) Above 100
11. Piezoelectric effect is used in
(A) DSA (B) PET
(C) Ultrasound (D) MRI
12. Organ system imaged in Enteroclysis is
(A) Small Intestine (B) Stomach
(C) Colon (D) Biliary system
13. What is OPG ?
(A) Abdominal Radiograph (B) Type of Dental Radiograph
(C) Skull Radiography (D) Type of Barium Study
14. The term "Doppler effect" is associated with which modality of investigation ?
(A) Ultrasound (B) Nuclear medicine
(C) PET CT (D) MRI
15. Metal used in super conducting magnets
(A) Iron (B) Copper
(C) Niobium-Titanium (D) Tungsten
16. Equipments in Nuclear Imaging are all except
(A) Gamma Camera (B) MRI
(C) SPECT (D) PET

17. Common Radiographic view for Calcaneum
(A) AP view (B) Axial view
(C) Lateral view (D) Oblique view
18. Number of Carpel bones in adult man
(A) 8 (B) 6
(C) 9 (D) 5
19. Longest bone in human body
(A) Humerus (B) Femur
(C) Ulna (D) Tibia
20. Most important single X-Ray view for Cervical spine in Trauma
(A) Open mouth view (B) C-spine oblique
(C) C-spine AP view (D) Cross-table lateral view
21. Foramen Magnum is part of
(A) Frontal bone (B) Parietal bone
(C) Occipital bone (D) Maxilla
22. Common Bone getting fractured in elderly people following a fall
(A) Skull (B) Spine
(C) Lower end of Radius (D) Neck of Femur
23. HSG is the investigation for
(A) Uterus & Fallopian tubes (B) Biliary system
(C) Urinary system (D) Small Intestine
24. Largest Sesamoid bone in the body
(A) Talus (B) Navicular
(C) Calcaneum (D) Patella

25. Largest muscle in human body
(A) Gluteus Minimus (B) Biceps femoris
(C) Gluteus Maximus (D) Pectoralis Major
26. Best Radiological view for Sella Turcica
(A) AP view skull (B) Conned lateral view skull
(C) Open Mouth view (D) Base of Skull view
27. Sialogram is the investigation of
(A) Urinary Bladder (B) Oesophagus
(C) Thyroid Gland (D) Salivary Gland
28. Common element used as Intravascular Contrast agent
(A) Calcium (B) Iodine
(C) Gadolinium (D) Carbon
29. Tuberculosis commonly affects
(A) Bone (B) Brain
(C) Lungs (D) Intestines
30. Bile is secreted by
(A) Duodenum (B) Stomach
(C) Pancreas (D) Liver
31. Elastography is new technique in
(A) CT Scan (B) MRI
(C) Ultrasound (D) DSA
32. High Resolution CT (HRCT) is most useful in
(A) Lung disease (B) Cardiac disease
(C) Brain (D) Angiography

33. Radiological view for Base of Skull
(A) Submento-vertical (B) Occipito frontal
(C) Fronto occipital (D) Lateral view
34. Which is not an Endocrine Gland ?
(A) Thyroid (B) Adrenal Gland
(C) Pituitary Gland (D) Liver
35. Sky line view in radiography is for
(A) Calcaneum (B) Patella
(C) Opic Foramen (D) Pituitary Fossa
36. Insulin is secreted by
(A) α cells of pancreas (B) β cells of pancreas
(C) Hepatocytes (D) Kupffer cells
37. Multiple Myeloma commonly affects
(A) Liver (B) Brain
(C) Skeletal system (D) Lymphatic system
38. 10-Day rule in radiographic procedures is observed for
(A) Infants
(B) Toddler
(C) Old Patients
(D) Women of Child bearing age group
39. Radiograph taken immediately after IV Contrast in IVU is
(A) Scout film (B) Nephrogram
(C) Cystogram (D) Pyclogram
40. Photoconductor used in Xeroradiography
(A) Barium Fluoride (B) Calcium Fluoride
(C) Amorphous Selenium (D) Charcoal Powder

41. Most common Malignancy in women
(A) Breast (B) Stomach
(C) Thyroid (D) Uterine cervix
42. Grids are used in Radiography for
(A) To increase penetration (B) To reduce absorbed dose
(C) To improve contrast (D) To reduce scatter radiation
43. High KV Technique is used in
(A) Angiogram (B) IVU
(C) Barium Studies (D) Tomography
44. Open Mouth View is to demonstrate
(A) Styloid process (B) C1-C2 & odontoid
(C) Adenoids (D) Foramen Magnum
45. Phlebography is the Radiological procedure to visualize
(A) Lymphatic system (B) Arterial system
(C) Capillaries (D) Venous system
46. Best imaging modality for IVDP
(A) CT Scan (B) Plain X-Ray
(C) MRI (D) Myelogram
47. OM line in Radiological Anatomy
(A) From outer canthus of eye to centre of ext. auditory meatus
(B) Joins the two infra orbital points
(C) Line passing from infra orbital point to upper border of ext. auditory meatus
(D) Line joining the centre of two pupil
48. Which is not a part of modern Radiodiagnosis Department ?
(A) Dark room fluoroscopy (B) MDCT
(C) MRI (D) PACS

49. Most common target material used in Mammography X-Ray tubes
- (A) Tungsten (B) Molybdenum
(C) Rhodium (D) Niobium
50. Photostimulable Phosphor in Imaging plate of CR is made from
- (A) Silver halide (B) Sodium Iodide
(C) Cesium Iodide (D) Barium fluorohalide
51. Which is the temperature at which Piezoelectric effect is lost Ultrasonography?
- (A) Curie point (B) Melting point
(C) Freezing point (D) Niquist limit
52. X-Ray beam emitted from tungsten target is
- (A) Mono energetic X-Ray always (B) Heterogenous X-Rays always
(C) Characteristic X-Rays always (D) Continuous X-Ray always
53. If generator capacity 24 Kwatt, what will be the mA value at 100 Kvp in an ordinary X-Ray unit?
- (A) 100 mA (B) 200 mA
(C) 300 mA (D) 400 mA
54. Becquerel is the unit of Radioactivity and equal to
- (A) 1000 dps (B) 100 dps
(C) 10 dps (D) 1 dps

55. Velocity of Ultrasound in water medium

- (A) 331 m/s
- (B) 1000 m/s
- (C) 1500 m/s
- (D) 4080 m/s

56. Edge enhancement is a phenomenon related to

- (A) Radiographic film
- (B) Gafchromic film
- (C) Gel dosimetry
- (D) Xero radiography

57. Dose equivalent and absorbed dose is same for

- (A) Electrons
- (B) Protons
- (C) Mesons
- (D) X-Rays

58. AERB permitted radiation level for student radiation worker

- (A) 40 msv
- (B) 5 msv
- (C) 6 msv
- (D) 7 msv

59. Gamma of a radiographic film is decided by

- (A) Base level region
- (B) Toe region
- (C) Straight line region
- (D) Shoulder region

60. Which radioactive material is applied in PET scan ?

- (A) F9
- (B) F16
- (C) F21
- (D) F26

61. Gyromagnetic ratio is the term related to

- (A) Ultrasound
- (B) CT Scan
- (C) Cath Lab
- (D) MRI

62. Room dimension prescribed AERB for C-Arm X-Ray unit
- (A) 10 Sq. meter (B) 25 Sq. meter
(C) 18 Sq. meter (D) None of the above
63. RMM of 12 Kilo curie Co-60 source is
- (A) 100 (B) 200
(C) 300 (D) 400
64. Half life of Radon²²²
- (A) 3.12 days (B) 3.33 days
(C) 3.83 days (D) None of the above
65. PMMA is a material which is
- (A) Tissue equivalent (B) Bone equivalent
(C) Air equivalent (D) Lead equivalent
66. Build up thickness of Cs-137 radioactive source is
- (A) 1.00 mm (B) 1.5 mm
(C) 2.0 mm (D) 2.5 mm
67. K edge of Copper
- (A) 1.6 KeV (B) 9 KeV
(C) 29 KeV (D) 50 KeV
68. Californium²⁵² is a
- (A) α emitter (B) β emitter
(C) γ emitter (D) n-emitter

69. Lead equivalence of Lead apron

- (A) 0.05 mm lead
- (B) 0.15 mm lead
- (C) 0.25 mm lead
- (D) 0.35 mm lead

70. Micro Air bubbles are used as contrast in

- (A) MRI
- (B) Ultrasound
- (C) CT Scan
- (D) DSA

71. All are single side emulsion coated films except

- (A) Mammography film
- (B) CT film
- (C) X-Ray film
- (D) CR film

72. Most important component of X-Ray fixer

- (A) Ammonium/Sodium Thiosulphate
- (B) Sodium Bicarbonate
- (C) Acetic Acid
- (D) Sodium Sulphate

73. All are rare earth phosphor used in Intensifying Screens except

- (A) Lanthanum oxybromide
- (B) Yttrium tantalate
- (C) Gadolinium oxysulphide
- (D) Calcium tungstate

74. Cholangiogram is the contrast investigation of

- (A) Biliary system
- (B) Spinal cord
- (C) Portal system
- (D) Colon

75. What is ALARA stands for

- (A) Radioactivity
- (B) Radiation protection & Measurement
- (C) Radiation hazard
- (D) Radio waves

76. Most common contrast agent used in MRI

- (A) Gadolinium chelates
- (B) Iohexol
- (C) Iopamidol
- (D) Ioversol

77. MRI is based on the magnetic property of body

- (A) Neutrons
- (B) Electrons
- (C) Iron
- (D) Protons

78. Isotope not used in Thyroid study

- (A) Tc-99 m pertechnetate
- (B) ^{32}P Phosphor
- (C) I-123
- (D) I-131

79. Tele radiography technique commonly used in

- (A) Chest PA view
- (B) KUB X-Ray
- (C) PNS X-Ray
- (D) Barium studies

80. Directorate of Radiation safety was first started in which state ?

- (A) Mizoram
- (B) Kerala
- (C) Tamil Nadu
- (D) Maharashtra

81. The percentage of earth surface covered by India is
- (A) 1.4 (B) 2.4
(C) 3.2 (D) 2.7
82. Deficit financing means that the government borrows money from the _____
- (A) Local Bodies (B) IMF
(C) RBI (D) Business men
83. The Indian National Association formed in the year is _____
- (A) 1857 (B) 1876
(C) 1885 (D) 1875
84. Krishnapuram palace is a famous tourist center in _____ district.
- (A) Thiruvananthapuram (B) Alappuzha
(C) Pathanamthitta (D) Kollam
85. The rolling plan introduced in which year ?
- (A) 1951-52 (B) 1976-77
(C) 1978-79 (D) 1984-85
86. The cold weather seasons starts in India is _____
- (A) June (B) March
(C) August (D) January

87. Dehradun is the capital of _____
(A) Uttar Pradesh (B) Uttarakhand
(C) Himachal Pradesh (D) Haryana
88. Most populated city in India _____
(A) Chennai (B) Patna
(C) Mumbai (D) Bangalore
89. Which of the following important rivers of India does not originate from the Western Ghats ?
(A) Cauvery (B) Krishna
(C) Godavari (D) Mahanadi
90. 'By God's Decree' is a famous book written by
(A) Sunil Gavaskar (B) Imran Khan
(C) Kapil Dev (D) C.K. Naidu
91. Chattampi Swamikal attained Samadhi in which year ?
(A) 1924 (B) 1921
(C) 1919 (D) 1922
92. Founder of 'Arayasamajam' is
(A) Thycad Ayya (B) Vagbhatanandan
(C) Kumaranasan (D) Pandit Karuppan
93. Ayyankali was born in _____
(A) 1863 (B) 1860
(C) 1869 (D) 1865

94. Birth place of Blessed Kuriakose Elias of Chavara.
- (A) Koonammavu (B) Mannanam
(C) Kainakary (D) Pallipuram
95. Who was the founder and publisher of the Newspaper "Swadeshabhimani" ?
- (A) Vakkam Moulavi (B) Mannathu Padmanabhan
(C) K. Kelappan (D) Dr. Palpu
96. Prime Minister Narendra Modi begins his first foreign visit to _____
- (A) China (B) Nepal
(C) Bhutan (D) Pakistan
97. World Day Against Child Labour was observes on
- (A) June 6th (B) June 12th
(C) July 4th (D) June 15th
98. Which country won the men's Hockey World Cup Title 2014 ?
- (A) Australia (B) Spain
(C) India (D) Pakistan
99. The line demarcating the boundaries of Pakistan and Afghanistan.
- (A) Durand Line (B) MacMohan Line
(C) Medicine Line (D) Radcliffe Line
100. Kuchipudi is a dance having origin from
- (A) Tamil Nadu (B) Andhra Pradesh
(C) Kerala (D) Karnataka

Space For Rough Work

