



सार्वजनिक आरोग्य विभाग परिक्षा
महाराष्ट्र शासन
प्रश्नपुस्तिका



Test Booklet No.: 06000686

प्रश्नपुस्तिका क्रमांक

Test Booklet Code

B

Roll Number: 1750620110

Answer sheet No.: 514750

Post Code: 06 \ X-Ray Scientific Officer

Total Questions: 100

Total Marks: 200

Time: 2 Hours

Mahesh Narsing Kamle

Name and
Signature of the Candidate

Signature of the Invigilator

IMPORTANT INSTRUCTIONS

महत्वाच्या सूचना

1. The test is of 2 hours duration and Questions Booklet contains 100 questions. Each question carries 02 mark. For each correct response, the candidate will get 02 mark.	१. परिक्षेसाठी २ तासांची वेळ आहे. प्रश्न पुस्तिकेमध्ये १०० प्रश्न आहेत. प्रत्येक प्रश्नासाठी दोन गुण आहेत. प्रत्येक अचूक उत्तरास दोन गुण मिळेल.
2. Use Blue/Black Ball point Pen only for writing particulars on this page or marking responses.	२. या पानावर तपशील लिहिण्यासाठी अथवा चिन्हांकित करण्यासाठी निळा/काळा बॉलपाईंट पेन वापरा.
3. Rough work is to be done on the space provided for this purpose in the Questions Booklet only.	३. कच्चे काम करावयाचे असल्यास त्यासाठी याच प्रश्न पुस्तिकेमध्ये उपलब्ध केलेल्या स्वतंत्र जागेचा उपयोग करावा.
4. On completion of the test, the candidate must handover the Answer Sheet to the Invigilator before leaving the Examination Hall. The candidates are allowed to take away this Questions Booklet with them after examination is over.	४. परिक्षा पूर्ण झाल्यानंतर उमेदवाराने परिक्षाकेंद्र सोडण्यापूर्वी उत्तर पत्रिका समावेशकांकडे जमा करणे बंधनकारक आहे. मात्र प्रश्नपुस्तिका उमेदवाराना बरोबर घेऊन जाण्याची परवानगी आहे.
5. The candidates should ensure that Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your Roll No. Anywhere else except in the specified space in the Questions Booklet and Answer Sheet.	५. उमेदवाराने उत्तरपत्रिकेच्या घडया घालू नयेत. उत्तरपत्रिकेवर उत्तराचे गडद केलेले फक्त एकच वर्तुळ सोडून इतर कोणत्याही प्रकारच्या खाणा-खुणा करू नयेत. प्रश्नपुस्तिका व उत्तरपत्रिकेवरील निर्देशित केलेल्या ठिकाणीच आपला रोल नंबर लिहावा.
6. Each candidate must show his/her Admit Card/Hall Ticket to Invigilator whenever demanded.	६. परीक्षा केंद्रावरील समावेशकांनी मागणी केल्यानंतर उमेदवारांनी प्रवेशपत्र दाखवावे. (Admit Card/Hall Ticket)
7. No candidate should leave his / her seat without special permission of the Invigilator/Supervisor.	७. परिक्षा केंद्रा वरिल समावेशक अथवा पर्यवेक्षक यांच्या विशेष परवानगी शिवाय कोणत्याही उमेदवारास आपली जागा अथवा परिक्षा कक्ष सोडता येणार नाही.
8. Use of Electronic/Manual Calculator is prohibited	८. इलेक्ट्रॉनिक/मॅन्युअल कॅल्क्युलेटर यांचा वापर करण्यास सक्त मनाई आहे.
9. The candidates are governed by all Rules and Regulations of the examination with regard to their conduct in the Examination Hall.	९. उमेदवारांनी परिक्षे संबंधी लागू असणा-या सर्व नियमांचे पालन करणे बंधनकारक राहिल. आचारसंहितेचा भंग केल्यास नियमानुसार कारवाई करण्यात येईल.
All cases of unfair means will be dealt with the rules & regulations of this examination.	
10. No part of Booklet and Answer Sheet shall be detached under any circumstances.	१०. परिक्षा पूर्ण होईपर्यंत कोणत्याही परिस्थितीत प्रश्नपत्रिका तसेच उत्तरपत्रिका यांची पाने वेगळी करू नयेत.

- 1) What is the full form of AD, used with dates?
 - A. Anno Domini
 - B. Assistant Director
 - C. Acknowledgement Due
 - D. After Date
- 2) Which of the following planets of our solar system has least mass?
 - A. Neptune
 - B. Jupiter
 - C. Mars
 - D. Mercury
- 3) Ozone gas is present in which layer of atmosphere?
 - A. Stratosphere
 - B. Troposphere
 - C. Ionosphere
 - D. Mesosphere
- 4) Who built the Khajuraho temples?
 - A. Holkars
 - B. Scindias
 - C. Bundela
 - D. Chandela
- 5) At which of the following places is the famous Kailasha Temple located?
 - A. Ajanta
 - B. Badami
 - C. Chittor
 - D. Ellora
- 6) Which of the following is NOT a Union Territory?
 - A. Goa
 - B. Lakshadweep
 - C. Dadar and Nagar Haveli
 - D. Chandigarh
- 7) How many spokes are there in the Dharma Chakra (Ashok Chakra) depicted on the National Flag of India?
 - A. 16
 - B. 20
 - C. 24
 - D. 32
- 8) The headquarter of RBI is situated at:
 - A. Delhi
 - B. Kolkata
 - C. Chennai
 - D. Mumbai
- 9) Thar Desert is situated in -
 - A. Rajasthan
 - B. West Bengal
 - C. Tamilnadu
 - D. Uttarakhand
- 10) Which of the following is the highest mountain peak in Maharashtra?
 - A. Taramati
 - B. Anjaneri
 - C. Salher
 - D. Kalsubai
- 11) National Rural Health Mission (NRHM) was launched in the year :
 - A. 2003
 - B. 2004
 - C. 2005
 - D. 2006
- 12) Who was called the 'Iron Man of India'?
 - A. Sardar Ballabhbhai Patel
 - B. Surendranath Bannerjee
 - C. Bipin Chandra Pal
 - D. Lala Lajpat Rai
- 13) Which sea is to the west of Maharashtra?
 - A. Black
 - B. Arabian
 - C. Labrador
 - D. Timor
- 14) Marathi Language Day is Celebrated on
 - A. 15th February
 - B. 7th February
 - C. 20th February
 - D. 27th February
- 15) The river Koyna joins the river Krishna at _____
 - A. Satara
 - B. Karad
 - C. Kolhapur
 - D. Mahabaleshwar

- 16) A bag contains 7 blue balls and 5 yellow balls. If two balls are selected at random, what is the probability that none is yellow?
- A. $\frac{5}{33}$
 B. $\frac{5}{22}$
 C. $\frac{7}{22}$
 D. $\frac{7}{33}$
- 17) Damodar is 26 years older than his son. In four years, his age will be twice the age of his son. The present age of his son is :
- A. 16 years
 B. 18 years
 C. 20 years
 D. 22 years
- 18) Introducing a girl, Niraj said, 'Her mother is the only daughter of my mother-in-law'. How is Niraj related to the girl?
- A. Husband
 B. Brother
 C. Father
 D. Uncle
- 19) Covid-19 is caused by _____
- A. Bacteria
 B. Parasite
 C. Virus
 D. Fungus
- 20) Madhuri, who is facing South turns to her left and walks 15 metres, then she turns to her left and walks 7 metres, then facing west she walks 15 metres. How far is she from her original position?
- A. 7 m
 B. 10 m
 C. 5 m
 D. 8 m
- 21) If Sunday falls on 30th April, what day would be on 31st May?
- A. Saturday
 B. Sunday
 C. Monday
 D. Wednesday
- 22)
- | | | |
|-----|-----|-----|
| 6 | 6 | 8 |
| 5 | 7 | 5 |
| 4 | 3 | ? |
| 120 | 126 | 320 |
- A. 12
 B. 8
 C. 14
 D. 16
- 23) Deepak has some hens and some goats. If the total number of animal heads is 90 and the total number of animal feet is 248, what is the total number of goats Deepak has?
- A. 32
 B. 36
 C. 34
 D. Cannot be determined
- 24) In class the average age of 75 students is 7 years. If along with the class teacher, the average is 7.5 years. What is the age of teacher age?
- A. 37.5 years
 B. 45 years
 C. 42 years
 D. 39 years
- 25) In a factory of 140 machine parts, 5 percent were defective. In a factory of 80 machine parts, 10 percent were defective. For the two factory combined, what percent of the machine parts were defective?
- A. 6.50%
 B. 7%
 C. 7.50%
 D. 8%

- 26) The correct sequence of communication is
- Message Sender Receiver
 - Message Receiver Sender
 - Sender Message Receiver
 - Receiver Sender Message
- 27) AB, DE, GH, ?, MN
- IJ
 - HI
 - JK
 - None
- 28) Pick the odd one
- Bengali
 - Marathi
 - English
 - Kannad
- 29) In a row of trees, one tree is seventh from either end of the row. How many trees are there in the row?
- 8
 - 13
 - 14
 - 11
- 30) In a class of 45 students, a boy is ranked 20th. When two boys joined, his rank was dropped by one. What is his new rank from the end?
- 25th
 - 26th
 - 27th
 - 28th
- 31) अशुद्ध शब्द ओळखा
- तथापि
 - परंतु
 - आणि
 - यापैकी नाही
- 32) 'दुभत्या गाईच्या लाथा गोड' या म्हणीचा अर्थ खालीलपैकी कोणता?
- दुभत्या गाईची लाथ लागत नाही.
 - फायदयासाठी अपमान सहन करणे.
 - अडथळे आले तरी प्रयत्न करावा.
 - दुभत्या गाईच्या लाथा खाणे.
- 33) 'अर्थ नसणे' या अर्थाचा योग्य वाकप्रचार कोणता?
- गाशा गुंडाळणे
 - फुगडी घालणे
 - वा-यावर सोडणे
 - राम नसणे
- 34) 'कृपण' या शब्दाच्या विरुद्धार्थी शब्द ओळखा
- उदार
 - कृतघ्न
 - गरीब
 - अपूर्व
- 35) गटात न बसणारा शब्द ओळखा?
- सूत
 - भ्राता
 - बंधू
 - भारू
- 36) रामबाण
- अचूक गुणकारी
 - रामाचा बाण
 - थोर पुरुष
 - राजा
- 37) दिलेल्या शब्दाचा समानार्थी नसलेला शब्द ओळखा. निखिल
- सर्व
 - निर्भीड
 - पूर्ण
 - सगळा

38) अधोरेखित शब्दांच्या विभक्तीचा अर्थ ओळखा.

अ) तो घरातून बाहेर पडला.

- A. कर्ता
- B. कर्म
- C. अपादान
- D. संप्रदान

39) 'सूर्य मावळत आहे' - पूर्ण भविष्यकाळ करा.

- A. सूर्य मावळेल.
- B. सूर्य मावळत असेल.
- C. सूर्य मावळलेला असेल
- D. सूर्य मावळला.

40) 'अमुक झाले तर अमुक होईल' असे काल्पनिक विधान करावयाचे असेल तर भूतकाळी आणि भविष्यकाळी कोणत्या अर्थाच्या क्रियापदाची योजना करावी लागते?

- A. आज्ञार्थी
- B. संकेतार्थी
- C. प्रश्नार्थक
- D. यांपैकी नाही

41) तो पेरुचे फळ सावकाश खात आहे, या वाक्यातील क्रियाविशेषण कोणते?

- A. पेरुचे फळ
- B. फळ
- C. सावकाश
- D. खात आहे

42) अधोरेखित शब्दाचा प्रकार ओळखा. तू पण माझ्याबरोबर प्रार्थना म्हण.

- A. उभयान्वयी अव्यय
- B. शब्दयोगी अव्यय
- C. क्रियाविशेषण
- D. केवलप्रयोगी अव्यय

43) कर्ता - कर्म - क्रियापद यांच्या परस्परसंबंधांना म्हणतात.

- A. वाक्य
- B. शब्दसमूह
- C. कर्तरी प्रयोग
- D. प्रयोग

44) सावळाच रंग तुझा पावसाळी नभापरी ! (अलंकार ओळखा)

- A. श्लेष अलंकार
- B. यमक अलंकार
- C. अतिशयोक्ती अलंकार
- D. उपमा अलंकार

45) लहानपण देगा देवा | मुंगी साखरेचा रवा |
ऐरावत रत्न थोर | त्यासी अंकुशाचा मार ||
वरील कडव्यातील अलंकार ओळखा.

- A. यमक अलंकार
- B. अनुप्रास अलंकार
- C. रूपक अलंकार
- D. दृष्टांत अलंकार

- 46) "I'm sure I've met your father."
 A. Verb
 B. Preposition
 C. Pronoun
 D. Interjection
- 47) Make the adjective of the word 'occasion.'
 A. occasioned
 B. accusational
 C. occasional
 D. occasionally
- 48) Choose the correct conjunction:
 She bought a car, _____ she was too young to learn to drive.
 A. if
 B. because
 C. although
 D. if not
- 49) I will sing if he _____
 A. will ask me
 B. asks me
 C. asked me
 D. has asked me
- 50) He said, "Please help me."
 Choose the option with the correct indirect form of the above.
 A. He pleased me to help me.
 B. He requested me to help him.
 C. He ordered me about helping.
 D. He said I need help
- 51) Choose appropriate antonym for the word 'Gloomy'
 A. Idle
 B. Wise
 C. Cheerful
 D. Sad
- 52) Choose the correct answer from the following and fill in the blank:
 A doctor who studies and treats mental illness _____
 A. psychiatrist
 B. psychologist
 C. psychoanalyst
 D. psychiatry
- 53) Give the meaning of 'To call it a day'.
 A. To have a good day.
 B. To work all the day.
 C. To have a free day.
 D. To stop doing work of the day.
- 54) Choose the correct meaning of the given phrase or idiom:
 Look into -
 A. to examine thoroughly
 B. to watch
 C. to observe
 D. to follow
- 55) Which of the following word is correctly spelt?
 A. administration
 B. convorsation
 C. creatyre
 D. devolop
- 56) Meaning of "Fly by night"
 A. Night journey
 B. A Bird busy in night
 C. Cat's eye
 D. Swindler
- 57) I _____ the apartment all day yesterday.
 A. Clear
 B. Washed out
 C. Cleaned Up
 D. None of these
- 58) Choose the word spelt correctly.
 A. Substantial
 B. Substantial
 C. Substential
 D. Substendial
- 59) He competed _____ me for the prize.
 A. Off
 B. With
 C. To
 D. Off
- 60) He _____ a very good grade in the examination.
 A. Earned
 B. Given
 C. Received
 D. None of these

61. X rays are
 A. Electromagnetic radiation
 B. Sound waves
 C. Heat waves
 D. None of the above
62. Which of the following is /are properties of xray
 A. Travel at speed of light and in straight line
 B. Blacken radiographic film
 C. Produce scatter
 D. All of the above
63. Target in X-ray tube is made of
 A. Tungsten
 B. Copper
 C. Molybdenum
 D. Steel
64. In X ray films chemical forming major component of emulsion layer is
 A. Silver halide
 B. Copper bromide
 C. Sodium chloride
 D. Magnesium sulphate
65. Target material used in X-ray mammography is preferably made of
 A. Copper
 B. Molybdenum
 C. Tungsten
 D. Rhodium
66. Absorbed dose is measured in
 A. Gray
 B. Rad
 C. Sievert
 D. Both A and B
67. Ideal grids absorb
 A. Primary radiation.
 B. Secondary radiation.
 C. Both of the above.
 D. None of the above.
68. The body plane that separates the body into anterior and posterior halves is the
 A. sagittal
 B. coronal
 C. axial
 D. transverse
69. In Water's PNS view, all of the following are correct except,
 A. patient position can be prone or upright
 B. neck is extended
 C. there is tube tilt.
 D. it can demonstrate frontal, ethmoidal and maxillary sinus.
70. Lordotic view of the chest is done for visualization of,
 A. lung apices
 B. lung bases
 C. right atrium of heart
 D. maubrio-sternal joint
71. Frog leg lateral projection is done for,
 A. femoro-acetabular joint
 B. knee joint
 C. ankle joint
 D. SI joint
72. What is CT?
 A. Camera technology
 B. Computed tomography
 C. Cine technique
 D. None of the above
73. Full form of IVP study is
 A. Intracatheter venous procedure
 B. b. Intravenous pyelography
 C. c. Intracerebral venopyelography
 D. d. Intracardiac venography

74. Concerning the atomic number of tungsten which of the following is correct?
- It has an atomic number of 74.
 - The K-shell binding energy of tungsten is 30.
 - The mass number of tungsten is 284
 - It is represented by the letter T.
75. All are the part of the Electromagnetic (EM) spectrum except?
- Ultraviolet light
 - Microwaves
 - Sound waves
 - X-rays
76. Which of the following is false about cathode of the X-ray tube ?
- Is commonly made of tungsten
 - Has a high melting point.
 - Is positively charged in relation to the anode
 - It has low resistance.
77. Regarding X-ray tube true is,
- Oil to help lubricate the motor bearings.
 - Envelope contains a vacuum.
 - Housing does not contain shielding to prevent radiation leakage.
 - Envelope is generally constructed from thick lead.
78. True regarding the X-ray tube filament A/E,
- Can be manufactured into thin wire
 - Commonly made up of tungsten
 - Tube filament current and tube current are the same
 - It is surrounded by a focusing cup
79. The heel effect can be minimised
- By increasing the target angle
 - Using a tungsten/rhenium alloy instead of pure tungsten
 - Using a larger field size
 - Using shorter source-to-film distances
80. Regarding Photoelectric effect true statement is ,
- Interaction with outer shell electron.
 - Not related to atomic number
 - Produces good contrast in the image
 - Iodinated contrast does not produces photoelectric effect.
81. All are used to stop the scatter radiation except ,
- Collimators
 - Aperture diaphragms
 - Cones and cylinders
 - Plastic template near exit of the xray.
82. CR image plate is made up of,
- Barium fluorohalide.
 - Calcium tungstate
 - Lanthanum
 - Gadolinium
83. In screen film radiography which of the following is associated with highest contrast in characteristic curve,
- Base plus fog
 - Linear region
 - D max
 - High exposure
84. Regarding PACS false is ,
- PACS is an acronym for Picture Archiving Computer System
 - PACS provides the ability to view images instantaneously on different monitors
 - PACS provides reporting platform
 - Provide remote access
85. In direct digital radiography the photoconductor is made up of,
- Amorphous selenium
 - Silicon
 - Tungsten
 - Cesium iodide

86. In mammography X-ray tubes true is,
 A. The anode is stationary
 B. Exposure time is 10 sec
 C. The normal focal spot size is 0.3 mm
 D. The anode side of the tube is placed towards the patient
87. The TLD badge for the whole-body exposure is kept,
 A. At the level of Chest
 B. At Wrist
 C. At the level of chest under lead under apron
 D. At the level of chest above the lead apron
88. TLD badge cannot detect,
 A. Xray
 B. Gamma ray
 C. Beta rays
 D. Alfa rays
89. True about TLD badges is,
 A. Wear all time during work
 B. Wear above lead apron
 C. Keep TLD in Xray examination room after work
 D. Can be frequently opened.
90. Thickness of lead apron is,
 A. 0.1 mm
 B. 0.25 mm
 C. 0.5 mm
 D. 1 mm
91. In accordance with the principle of 'As Low As Reasonably Possible' (ALARA) for radiation safety in medical practice, which ONE of the following will reduce radiation exposure?
 A. Increase the distance between operator and xray tube.
 B. Decreasing the distance between the patient and the xray detector
 C. Decreasing the distance between the Xray source and the patient
 D. Decreasing the distance between the Xray source and the operator
92. Xray examination room thickness according to AERB should be,
 A. 20 cm
 B. 23 cm
 C. 26 cm
 D. 29 cm
93. Which of the following is not used in skull radiography?
 A. Skyline
 B. Lateral view
 C. Towne view
 D. Caldwell view
94. Judet view is used for?
 A. Hip joint
 B. Acetabulum
 C. Pelvis
 D. Knee
95. For scaphoid fracture best view is,
 A. PA with radial deviation
 B. PA with ulnar deviation
 C. AP with radial deviation
 D. AP with ulnar deviation
96. Modified stenvers view is used in
 A. Orbits
 B. Temporal bone
 C. Paranasal sinuses
 D. Nasal bone
97. Centring in PA chest radiograph is done at the level of,
 A. 6th thoracic vertebra
 B. 7th thoracic vertebra
 C. 8th thoracic vertebra
 D. 9th thoracic vertebra
98. Distance between image receptor and xray tube in PA chest radiograph is,
 A. 160 cm
 B. 170 cm
 C. 180 cm
 D. 190 cm

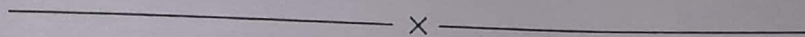
99. Dental X-Ray is also known as

- A. Orthopedics
- B. Orthopentology
- C. Orthology
- D. Orthopantomography

together with an X-Ray machine?

- A. Grid
- B. Ultrasound
- C. Fluoroscopy
- D. C-Arm

100. Which of the following machines is not placed



Rough Work