

MAHRASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION, MUMBAI

YEAR OF EXAMINATION – JANUARY 2013

CERTIFICATE COURSE IN X RAY TECHNICIAN ASSTT.

TIME ALLOWED – 3 HOURS

MARKS – 100

SUBJECT – BASIC TECHNIQUES (THEORY-I)

Note :- 1) All question are compulsory.

2) Draw neat labalied digram if necessary.

Que.1) A] Choose the correct work and complete the statement. 5

- a) ----- stage is absent in automatic processing.
 - 1) Developing 2) Washing 3) Rinsing 4) Fixing
- b) X-ray were discovered by -----.
 - 1) Dr.Homi Bhabha 2) Dr. Robert Wok 3) Madam Curie
 - 4) Prof. W.C. Roengen.
- c) In composition of intesitying screens most commonly used phosphor is -----.
 - 1) Calcium Tungstate 2) Barium sulphate 3) Silver bromide
 - 4) Calcium carbonate.
- d) ----- is the heart of x-ray machine.
 - 1) Cassette 2) Developer 3) X-ray tube 4) Grid.

B] Match the correct pairs from group 'A' and 'B'. 5

- | A | B |
|---------------------------------|--------------------------------|
| 1] Safe light | 1] Reduces scattered radiation |
| 2] Lead thickness in lead apron | 2] Must in dark-room |
| 3] Abscrbed dose unit | 3] 0.5 mm |
| 4] Grid | 4] 0.5 cm |
| | 5] RAO |
| | 6] Roentgen |

Que.2] Answer any three of the following. 15

- 1) Write a short note on TLD?
- 2) How will you take care & cassettes?
- 3) Write a note on base of x-ray film?
- 4) Write any six properties of x-rays?

Que.3] Write any three of the following. 15

- 1) Write a short note on rinsing of x-ray film?
- 2) What are the different types of x-ray film.
- 3) What are the factors affecting use of developer?
- 4) Draw and label double coated x-ray film?

- Que.4] Write any three of the following.(short note on) 15
- 1) Replouisher
 - 2) Safe light
 - 3) Entrance of dark-room
 - 4) Latent image
- Que.5] Write any three of the following. 15
- 1) Different types of silver recoreries. Describe any one in short?
 - 2) How will you test a cassette for uniform screen-film coutact?
 - 3) How will you take care of unexposed x-ray films?
 - 4) What is the importance of x-ray record- keeping?
- Que.6] Write any three of the following. 30
- 1) What are the different types of cassettes? Give example of each.
 - 2) Draw and label cross-section of inter sifying screen.
 - 3) What are the contents of developer? Write their action in short?
 - 4) Write a short note on drying of x-ray films.

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MARKS – 100

SUBJECT – BASIC TECHNIQUES (THEORY-II)

Note :- 1) All question are compulsory.

2) Draw neat labalied digram if necessary.

Que.1) A] Choose the correct work and complete the statement. 5

- a) S.P. Nailing for ----- joint.
1) Master 2) Awole 3) Wrist 4) Elbow 5) HIP
- b) Patella is ----- bone.
1) Regular 2) Sesamoid 3) Long 4) Flat
- c) The 8th Molar is called as ----- tooth.
1) Master 2) Wisdom 3) Millic 4) Important
- d) The upper limb has ----- number of bones.
1) 30 2) 31 3) 28 4) 32

B] Match the pair. 5

- | | |
|---------------------|---|
| 1) Sutures | 1) Medulla oblongata |
| 2) Obontoid process | 2) For the chip joint |
| 3) Sternal angle | 3) 32 in number |
| 4) Foramen-magnum | 4) Immovable joint |
| | 5) 2 nd cervical ventebra |
| | 6) 4 th -5 th thoracic ventebra |

Que.2] Write any three of the following. 15

- 1) Draw and label femur bone?
- 2) Where is the centering point of x-ray of wrist joint Ap / Lat. View?
- 3) Write the function of mandible bone?
- 4) Write the names of tarsal bone?

Que.3] Write any three of the following. 15

- 1) Which are the function of bone?
- 2) Draw and label scapula bone?
- 3) Write a note on teeth.
- 4) What are the indications for K.U.B. x-ray?

Que.4]	Write any three of the following.	15
	<ol style="list-style-type: none"> 1) Sutures 2) Hip joint 3) T.M. joint 4) Intra-oral x-ray film 	
Que.5]	Write any three of the following.	15
	<ol style="list-style-type: none"> 1) Define projection mention different types? 2) Draw and label the typical rib? 3) Give the organs or contents of the abdomen? 4) What is meant by Mc Burnery's point? 	
Que.6]	Long answer question any three.	30
	<ol style="list-style-type: none"> 1) Give the function of vertebral column? 2) How to take the x-ray of chest A.P. view only on portable x-ray machine? 3) Draw and label sternium bone? 4) How to take the x-ray of upper jaw in betⁿ molar teeth? (position pts. Centering and central rays). 	

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TIME ALLOWED – 3 HOURS

MARKS – 100

SUBJECT – SPECIAL PROCEDURES & RECENT DEVELOPMENTS (THEORY-III)

Note :- 1) All question are compulsory.

2) Draw neat labelled diagrams if necessary.

Que.1]A] Choose the correct work and complete the statement. 5

- a) 'Sialography' is don't to study and to find -----.
 1) Urinary stones 2) Biliary stones
 3) Intestinal stones 4) Salivary stones
- b) H.S.G. is indicated in -----.
 1) Pregnancy 2) Sterility 3) Male 4) T.B. of intestines.
- c) Cancer of mucous membrane is known is -----.
 1) Ademoma 2) Antibioma 3) Sarcoma 4) Carcinoma
- d) X-rays travel in -----.
 1) Oblique line 2) Back line 3) Comer line 4) Straight line.

B] Match the pair. 5

- | | |
|----------------|------------------------|
| 1) I.V.P. | 1) For tetanus |
| 2) Mammography | 2) -ve contrast medium |
| 3) A.T.S. | 3) For renal stones |
| 4) Air | 4) For breast cancer |
| | 5) For tuberculosis |

Que.2] Write any three of the following. 15

- 1) What is radium? What are its uses?
- 2) What is leukaemia? What are its types?
- 3) How gonads hands and eyes are protected in x-ray department?
- 4) What are the indications for I.V.P.?

Que.3] Write any three of the following. 15

- 1) Define metastasis .Write its modes?
- 2) What is the trcatment for ca-breast?
- 3) What are the patient preparations of O.C.G.?
- 4) What is Tomography? What are the movements in Tomography?

- Que.4] Write any three of the following. 15
- 1) Acute radiation syndrome?
 - 2) Emergencies in radiology department?
 - 3) Complete blood count (C.B.C.)
 - 4) Duties of x-ray technician.
- Que.5] Write any three of the following. 15
- 1) Dacryocystography
 - 2) Arthrography
 - 3) What are the indications and contra-indication for H.S.G.?
 - 4) Write in short immunization programme for a girl up to 10 years?
- Que.6] Write any three of the following.(long answer question) 30
- 1) What is C.B.C.? Write its normal values?
 - 2) What is radium? Give its uses?
 - 3) What is the patient preparation and procedure for sialography?
 - 4) What are the precautions to be taken by x-ray technician in radiology department for personal safety?

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SUPPLEMENTARY EXAMINATION – JANUARY 2013

CERTIFICATE COURSE IN X RAY TECHNICIAN ASSTT.

TIME ALLOWED - 3 Hrs.

MARKS – 100

SUBJECT – BASIC TECHNIQUES [PRACTICAL –I]

Q.1.	Identification and Describe. [5for each spot] 1. Drying clip. 2. Radiography X Ray wrist joint. 3. X Ray Foot. 4. X Ray skull[lateral]	20
Q.2.	Short Experiment [any one] How will you test a screen for uniform conduct. 1. How will you take care and maintain cassette. 2. Test a dark room for safe light. 3. Test a dark room for safe light.	25
Q.3.	Long Experiment.[any one] 1. Process any one film and write in detail about manual and automatic processing. 2. What are techniques & mounting screen on cassette. Write with diagram structure of screen. 3. Hoe will you recover silver, what are types describe any one method & silver recovery.	35
Q.4.	Viva	10
Q.5.	Term Work	10

सर्टीफिकेट कोर्स इन एक्सपरे टेक्निशियन असिस्टंट

वेळ : ३ तास

गुण : १००

विषय : बेसिक टेक्निक्स (प्रात्याक्षिक- १)

- प्र. १ खालील यादीतील कोणतेही चार गोष्टी निवडून त्याचा वस्तु ओळखण्यासाठी व त्याचा उपयोग लिहिण्यासाठी मांडणी करावी (spotting) प्रत्येक बरोबर उत्तराला पाच गुण घ्यावेत व प्रत्येकास ५ मिनिटे वेळ घ्यावा. २०
- १) ड्राईंग क्लिप
 - २) रेडिओग्राफ (फिल्म) मनगटाचा सांध्याची फिल्म
 - ३) पायाच्या (अॅकल जाईट) सांध्याची फिल्म
 - ४) कवटीची लॅटरल फिल्म
- प्र. २ लघु प्रश्न (प्रात्याक्षिकयादी) (कोणतेही एक) २५
- १) युनिफॉर्म कॉन्टॅक्ट साठी तुम्ही स्क्रीनची तपासणी कराल.
 - २) तुम्ही कॅसेटची सुव्यवस्था व काळजी कशी घ्याल.
 - ३) सेफटी लाईट (सुरक्षीत प्रकाश) साठी अंधार खालीची तपासणी करा.
- प्र. ३ दिर्घोत्तरी प्रश्न (कोणतेही एक). ३५
- १) कोणतीही एक फिल्म प्रोसेस करा व मॅन्युअल अ‍ॅटोमॅटीक प्रोसेसींग विषयी सविस्तर माहिती लिहा.
 - २) स्क्रीन कॅसेट मध्ये माऊंटिंग करण्याच्या पद्धती लिहा आकृतीसह स्क्रीनची रचना स्पष्ट करा.
 - ३) तुम्ही चांदी कशी प्राप्त कराल, त्याचे प्रकार कोणते, चांदी प्राप्त करण्याची एक पद्धत सविस्तर लिहा.
- प्र. ४ तोंडी प्रश्नोत्तरे १०
- प्र. ५ टर्म वर्क १०

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SUPPLEMENTARY EXAMINATION – JANUARY 2013

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TIME ALLOWED - 3 Hrs.

MARKS – 100

SUBJECT –GENERAL ANATOMY [PRACTICAL –II]

- | | | |
|------|---|----|
| Q.1. | Identification and Describe. [5for each spot]
1) Patella bone
2) Dental film
3) X ray shoulder joint
4) Scapula bone | 20 |
| Q.2. | Short Experiment [any one]
1) Take X ray skull (lateral) show it write.(enlist) skull bone.
2) Take X ray calcaneum (lateral view) write (enlist) tarsal bone.
3) Take X ray cervical spine show it write its indication. | 25 |
| Q.3. | Long Experiment [any one]
1) Take the x ray of ----- (a,b,c,d,-----) and process film.
Show it to examiner. Write in detail with the help of following points.
2) Anatomy
3) Central ray central point
4) Processing of x ray film
a) X ray shoulder joint AP. View.
b) X ray knee joint AP. view.
c) X ray Hip joint. | 35 |
| Q.4. | Viva | 10 |
| Q.5. | Term Work | 10 |

सर्टीफिकेट कोर्स इन एक्सरे टेक्निशियन असिस्टंट

वेळ : ३ तास

गुण : १००

विषय : जनरल ॲनाटोमी (प्रात्याक्षिक- २)

- प्र. १ खालील यादीतील कोणतेही चार गोष्टी निवडून त्याचा वस्तु ओळखण्यासाठी व त्याचा उपयोग लिहिण्यासाठी मांडणी करावी (spothing) प्रत्येक बरोबर उत्तराला पाच गुण घ्यावेत व प्रत्येकास ५ मिनिटे वेळ घ्यावा. २०
- १) पटेला बोन
 - २) डेंटल फिल्म
 - ३) खांदयाच्या सांध्याची फिल्म
 - ४) स्कॅपुला बोन
- प्र. २ लघुत्तरी प्रश्न (प्रात्याक्षिक) (फक्त एक) २५
- १) कवटीचा (लॅटरल) एक्सरे काढून दाखवा आणि कवटीतील हाडाची नावे लिहा.
 - २) कॅल्केनियम च्या लॅटरल विव्हा चा एक्सरे घ्या टार्सल बोनची नावे लिहा.
 - ३) सर्व्हीयकल स्पाईनचा एक्सरे काढून दाखवा? इंडिकेशन लिहा.
- प्र. ३ दिर्घोत्तरी प्रश्न (कोणतेही एक) ३५
- खालील दिलेल्या (अ,ब,क,ड,-----) पैकी एक एक्सरे किलर प्रोसेस करा व परिक्षकास दाखवा. खालील मुद्यांवरून सविस्तर माहिती लिहा.
- १) रचना (ॲनाटोमी)
 - २) मध्येरेषा मध्यबिंदु
 - ३) फिल्म प्रोसेसींग
 - अ) खांदयाचा अेपी विव्ह
 - ब) गुडघ्याचा अेपी विव्ह
 - क) पेल्वीस चा अेपी विव्ह
- प्र. ४ तोंडी प्रश्नोत्तरे १०
- प्र.५. टर्म वर्क १०

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TIME ALLOWED - 3 Hrs.

MARKS – 100

SUBJECT –SPECIAL PROCEDURES & RECENT DEVELOPMENTS [PRACTICAL –III]

- | | | |
|------|--|----|
| Q.1. | Identification. [5 for each spot] | 20 |
| | 1) M.R.I. scan | |
| | 2) C.T. scan | |
| | 3) Barium sulphate | |
| | 4) Sim's speculum | |
| Q.2. | Short Experiment [any one] | 25 |
| | 1) What are contraindication for I.V.P.? Write procedure. | |
| | 2) How will you do sialography? | |
| | 3) How will you diagnose breast cancer (Mammography). | |
| Q.3. | Long Experiment [any one] | 35 |
| | Describe in detail following graphy with the help of the points given below. | |
| | a) Barium swallow | |
| | b) Intravenous pyelography | |
| | c) Myelography | |
| Q.4. | Viva | 10 |
| Q.5. | Term Work | 10 |

सर्टीफिकेट कोर्स इन एक्सरे टेक्निशियन असिस्टंट

वेळ : ३ तास

गुण : १००

विषय : स्पेशल प्रोसिजर्स अँड रिसेंट डेव्हलपमेंटस् (प्रात्याक्षिक- ३)

- प्र. १ खालील यादीतील कोणतेही चार गोष्टी निवडून त्याचा वस्तु ओळखण्यासाठी व त्याचा उपयोग लिहिण्यासाठी मांडणी करावी (spothing) प्रत्येक बरोबर उत्तराला पाच गुण घ्यावेत व प्रत्येकास ५ मिनिटे वेळ घ्यावा. २०
- १) एम.आर.आय.स्कॅन
 - २) सि.टी. स्कॅन
 - ३) बेरिअम सल्फेटचे मिश्रण
 - ४) सिम्स स्पेकुलम
- प्र. २ लघुत्तरी प्रश्न (प्रात्याक्षिक) (फक्त एक) २५
- १) (आय.वि.पी.) चे कॉन्ट्राइंडिकेशन लिहा पद्धत लिहा.
 - २) सायलोग्राफी ही तपासणी कशी कराल ते लिहा.
 - ३) स्तनाचा कर्करोग कसा शोधाल (मॅमोग्राफी).
- प्र. ३ दिर्घोत्तरी प्रश्न (कोणतेही एक) ३५
- खालील पॉइन्टसच्या आधारे ग्राफी वर्णन करा.
- अ) बेरिअम स्वालो
 - ब) ईन्ट्रावेनस पायलोग्राफी (आय.वि.पी.)
 - क) डिस्कोग्राफी
- प्र. ४ तोंडी प्रश्नोत्तरे. १०
- प्र. ५. टर्म वर्क १०

