BHARAT SEVAK SAMAJ

NATIONAL DEVELOPMENT AGENCY, PROMOTED BY GOVERNMENT OF INDIA
CENTRAL BOARD OF EXAMINATIONS
BSS NATIONAL VOCATIONAL EDUCATION MISSION

AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-01 COMMUNICATIVE ENGLISH AND COMPUTER FUNDAMENTALS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) It is good .....health.
2) ..... You will pass.
3) MS word is used for .....
4) I waited for ..... hours
5) Mouse is an.....device
6) UG I means.....
7) You can enlarge a document using .....
8) Below the menu bar ..... bar appears
9) A sheet can be renamed using ..... facility in Ms Excel
10) The expansion of WAN is----------

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) What is meant by verb?
2) Define kinds of verbs?
3) What is meant by masculine Gender?
4) What is meant by Feminine Gender?
5) Del Command
6) Explain any five options for the format 'menu'
7) Question tags
8) Noun phrase
9) Explain 'find', 'replace' and 'go to'.
10) Define Oar

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Define what is meant by omission of article?
2) Write any two types of job application?
3) Explain Cut, Copy and 'Paste'
4) Find and replace
5) Hybrid computer
6) Edit
7) Substance abuse
8) Define A, B, C in CPR?

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Write a letter to the station master requesting him to reserve two coaches for your school excursion party
2) Write what in complex sentence
3) Explain a computer and draw a block diagram
4) Explain Internet, Intranet, search engine and Website ?
5) Write briefly about generations of computer?

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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-02 ANATOMY & PHYSIOLOGY

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) The length of large intestine is .....
2) The functional unit of brain is called .....
3) The largest gland in human body is .....
4) ..... is an example of synovial joint
5) The shoulder joint is the ..... type of joint
6) Largest artery in the body is.....
7) The first cervical vertebrae is called ————————.
8) Human body consists of ..... Layer of koshes.
9) There are .....of cranial nerves
10) The inner part of kidney is named .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Clavicle
2) Pulmonary circulation
3) Muscular System
4) Pericardium
5) Sacrum
6) Composition of urine
7) Define Sathakriya
8) Hormones
9) Autonomic nervous system
10) Neuroglia

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Thyroid gland
2) Medulla oblangata
3) Hydrocephalus
4) Pleural effusion
5) Explain the structure of eye
6) Bone of the lower limb
7) Pulmonary circulation
8) Mechanism of hearing

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe the uterus with the help of neat diagram
2) Write in detail about the organs of the Urinary Tract
3) Explain the structure and functions of skin
4) Explain the female reproductive system with neat diagram
5) Explain the CT Thorax from T1-T12 with the help of diagram

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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-03 ELECTRICITY PHYSICS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) The measurement of film blackness is known as .....
2) The cathode end of X-ray tube is .....
3) Filament current is known as .....
4) Unit of resistance is .....
5) The best conductor of electricity is .....
6) Natural radio activity is discovered by .....
7) The number cycle per second is called ..... of an AC
8) Amphere can be denoted by the symbol .....
9) The maximum difference of potential between the terminal of a battery or a generator is .....
10) In X-ray the wave length directly depends on .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Control Panel
2) Current
3) Volt meter
4) Conductor
5) Insulator
6) Capacitor
7) Transformer
8) Molecules
9) KV
10) Spinning top

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Basic chemicals
2) AC generator
3) Functions of a fixer
4) Molecules
5) Preparation of X rays
6) Electron wolf
7) Timer in X-ray machine
8) Target

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe the basic X-ray machine
2) Describe in detail the structure of an atom
3) Briefly explain temperature and heat
4) Explain about capacitor
5) Explain the laws of electrolysis by Faraday

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-04 RADIOLOGY PHYSICS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) .....is a process of converting direct current to alternating current
2) ..... is the metal widely used as target
3) The process of emission of electrons from cathode by heating is .....
4) ..... is used as a protective material in radiology department
5) X-ray was discovered in the year .....
6) The advantages of TLD is .....
7) X-ray therapy tubes operate at .....
8) An example for rare earth intensifying screen is .....
9) X-rays consist of a type of radiation known as _____ radiation
10) The filament is made of _____ wire.

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Diode
2) Atomic structure
3) Cathode
4) Protons
5) Heel effect
6) GRAY
7) Focal spot
8) Scatter radiation
9) Equalent dose
10) Intensity of X-rays

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Filament
2) Properties of X-rays
3) Cooling of x-ray tube
4) Uses of x-rays
5) Guidelines for using filmbadge
6) Sources of radiation
7) Rotating anode
8) The principle of ultra sound

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Briefly explain the parts of x-ray tube
2) Explain about medical radiation dose and exposure
3) Describe about electromagnetic spectrum
4) Explain the properties of magnet
5) Explain the rectification of X-ray

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-05 POSITIONING IN RADIOGRAPHY

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) Radiological imaging of breast is called .....
2) Exposure factors of bone is ..... KV
3) The centering point of Lumbar Spine AP projection is .....
4) Cholecytography is advising to detect the disease inthe .....
5) ..... medicine is used for HSG
6) IVU means the study of .....
7) Film size for dorsal spine is .....
8) Ulna is the longest bone of the .....
9) The main merit of TLD is.....
10) When the atomic number is increased the binding energy is.....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Photography
2) Scatter radiation
3) Pelvis AP
4) Glabella
5) The position of wrist AP
6) Fluroscopy
7) Calcanium axial view
8) Heel effect
9) Picture element
10) Detectors

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Ventriculography
2) The position of part of the AP view of forearm
3) Radiography
4) Joint PA
5) Cervical vertebrae
6) Sternum lateral
7) Knee joint AP and lateral view
8) MR contrast agents

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe chest radiography and its positioning (PA and Lateral views)
2) Explain protection of patient in diagnostic department
3) Explain about Barium meal
4) Draw the diagram of skull and describe bone of skull
5) Explain special investigations of internal organs

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE003-06 DARK ROOM TECHNIQUES

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) Rinsing is used in .....
2) Single coated film is commonly used in .....
3) X ray film is ..... coated film
4) Preservative is added to the developer to check.....
5) Metol contains in ..... solution
6) Emulsion layer is composed of .....
7) PH of the developer solution is .....
8) X-rays are invented by .....
9) Dark room is otherwise called .....
10) X-ray are ..... form of radiation

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Pass book
2) X-ray Loby
3) Fluorescence
4) Processing cycle
5) Atom
6) Processing cycle
7) Atom
8) H&D curve with diagram
9) Latent image
10) Qualities of film

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Humerus (AP)
2) Types of films
3) Anode heel effect
4) Differences between manual and automatic processors
5) 4th generation CT scanner
6) The various types of cameras used in radiographic imaging
7) Advantages of rinsing
8) The thermionic emission

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Explain about important radiographic accessories
2) Intensifying screens: construction, properties, types of phsophors
3) Explain about ingredients of fixing agent
4) Explain the structure of silver bromide and action of X-ray on the crystals.
5) Explain about contrast media

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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE003-13 SPECIAL INVESTIGATION

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) Porencephaly denotes a .....
2) Aneurysm is an abnormal focal enlargement of an .....
3) Micturating cysto urethra graphy is done in .....
4) Brain abscess typically occurs as a result of preceding .....
5) ..... are the primary malignancy of the kidney
6) To visualize the bronchial tree ..... is used
7) Renal abnormalities can be evaluated by .....
8) Oral cholesystography procedure is used in the diagnosis of .....
9) When gall bladder is not visualized by oral cholecytography ..... is employed
10) HSG is the radiological investigation of .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Barium enema
2) Pleura
3) Bronchography
4) Brain atrophy
5) Nephrogram
6) Town view
7) Lateral view
8) Main factors in radiography
9) Brium enema
10) Ureters

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) X-ray abdomen
2) Cholesteatomas
3) Parathyroid glands
4) Radiological exam of heart
5) Radiography of Laryngo pharynx
6) Double contrast barium Enema
7) Ba swallow
8) Dental formula

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe about the hysterical phonograms (HSG)
2) Explain about uterine carcinomas with the help of diagram
3) Explain about bone tumors with the help of diagram
4) Write in detail about preparation indications and procedure of Ba enema
5) Explain about hysterical phonograms (HSG)

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE003-14 RADIATION HAZADS & SAFETYMEASURE

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) In the PA projection of the hand and thumb is in the ..... position
2) Wave length of X-ray is measured in .....
3) The optical density of densitometery OD = ...
4) The full form of S.S.D is .....
5) lonizing radiation is used to .....
6) ..... is used in step wedge method
7) ..... is the source of brachy therapy
8) MPD means.....
9) The unit of radiation is .....
10) The protective apron must have a minimum lead equivalence of .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Collimator
2) Grid
3) Permissible dose
4) Occupation exposure
5) Gonad shield
6) Film badge
7) Fluroscopy
8) Radio Activity
9) Dose measurement
10) Grids

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Fluoroscopy
2) Dosimeter
3) Methods against radiation
4) Fluroscopy protection
5) Characteristics curve
6) Heat and three ways of heat transfer
7) Lead apron
8) Lead barrier

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe in detail the filters and filtration
2) Explain late and immediate effects of radiation
3) Describe about radiation protection in fluroscopic procedure
4) Describe in detail on maximum permissible dose and isodose charts
5) Briefly explain late and immediate effects of radiation

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE003-15 HOSPITAL PRACTICE & PATIENT CARE

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) ..... is the investigation of choice in head injury patients
2) The condition of difficulty in swallowing is called.....
3) Name any one sedation .....
4) In X-ray department ..... (drug) is used
5) Side effect in the contrast medium leads .....
6) A good contrast medium must be .....
7) Patient care is different for ..... and .....
8) Before the special procedure, ... is signed
9) ..... contrast media is used for GIT
10) Sialography is the radiological examination of .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Gliomas
2) Contrast media
3) Emphysema
4) Motion art
5) Coronal plane
6) Conscent form
7) Immobilization
8) Cm administration
9) How can reduce reactions of contrast media
10) Barium swallom

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Patients preparation for abdomen and pelvis
2) Skull fracture
3) X-ray tubes
4) HSG
5) Hospital acquired infection
6) Radiographic equipment
7) Positive contrast media
8) Reactions of contrast media

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe disorders after contrast media
2) Explain barium swallow techniques
3) Describe about the care of infants and children
4) Define contrast media. Explain the types of contrast media
5) Briefly explain indications, preparation , Procedure, and after care of HSG

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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE003-16 RADIOGRAPHIC PHYSICS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) An example for a paramagnetic substance is .....
2) Average fixing time is .....
3) The ..... salt is used in urography (contract media) is sodium and maglumine
4) X-ray was discovered by ..... in the year .....
5) In MRI ..... X-ray tube is used
6) ..... is the paramagnetic substance
7) The gas field dector contains ..... gas
8) ..... is the visual examination of body through a flourescent screen
9) CT invented by .....
10) Memmography helps to .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Scatter radiation
2) Radiography
3) Soft rays
4) CT
5) Exposure
6) Exposure times
7) Circuit breaker
8) Cathode rays
9) Inverse square law
10) Ionization

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Secondary radiation
2) Pass box
3) Mutual induction
4) Control panel
5) Electromagnetic radiation
6) The body parts of CT scanner used
7) Basic principle of MRI
8) Magnets used in MRI

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Describe the construction of radiographic film
2) Describe the main body parts of CT scanner used
3) Explain the X-ray beam restrictors
4) Describe in detail the production and properties of ultrasound & explain different scan modes of ultrasound
5) Describe CT Scan of brain parameters with basic anatomy and pathology

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AHE003-BSS DIPLOMA IN X-RAY TECHNOLOGY

TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE003-17 ECG & IMAGING SERVICE

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 33 questions are there in total
* Write answers to each question in proportion to the mark allotted
* During the first 15 minutes read the questions carefully

I. FILL IN THE BLANKS **1 x 10 = 10**

1) ..... is popularly known as the father of ECG
2) When the heart contracts ..... are produced
3) Excitatory process flows towards unipolar electrode, it is called .....
4) ..... is of great value in the diagnosis of myocardial infraction
5) Faster heart rate is known as .....
6) The main artery in the body is called .....
7) The normal heart beat is .....
8) Sensitometry is introduced by .....
9) ..... is the unit of radioactivity
10) Unit of absorved does is .....

II. DEFINE THE FOLLOWING **2 x 10 = 20**

1) Barium test
2) Radiographic positioning
3) Neoplasm
4) Sutures seen in skull AP view
5) Ultra sound
6) SA node
7) ECG of one cardiac cycle
8) X-ray room
9) AV node
10) Sino atrial block

III. WRITE BRIEF ANSWER FOR ANY 5 QUESTIONS **5 x 5 = 25**

1) Radiographic frontal sinuses
2) Giant cell turmor
3) Describe the position of ECG leads
4) Normal ECG'
5) Transmission and emission of X-ray
6) To prepare patient for excercise testing
7) Genetic effects of radiation
8) Bundle branch block

IV. WRITE LONG ANSWER FOR ANY 3 QUESTIONS **15 x 3 = 45**

1) Explain heart with the help of neat diagram
2) Describe radiographic appearance of IVu series
3) Explain the method to analyze the electrocardiogram
4) Explain the Techniques of ECG
5) Draw the diagram of heart and explain its functions