



BHARAT SEVAK SAMAJ

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

AHE017-BSS DIPLOMA IN RADIOLOGY & IMAGING TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE017-01 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) I saw a beggar near bus stop
- 2) 'Speak' is verb.
- 3) He is the room.
- 4) Be back
- 5) Let the door opened.
- 6) Hybrid computer is used for
- 7) is a folder, stores the deleted files
- 8) Basic working platform of the computer is
- 9) A sheet can be renamed using facility in Ms Excel
- 10) The letters in computer application is called

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define the adjectives words?
- 2) What is meant by adverb?
- 3) Memory unit
- 4) Define software?
- 5) Backup
- 6) Taskbar
- 7) Explain UNIX
- 8) Question tags
- 9) Language
- 10) What is colour ?

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

- 1) Explain 'WH' type question words?
- 2) Explain few sentences using "across, at"?
- 3) Define kinds of adjectives
- 4) Explain analog and hybrid computer
- 5) Importance of information technology
- 6) Edit
- 7) Symbols and pictures
- 8) Define A, B, C in CPR?

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

- 1) Describe MS Windows
- 2) Explain structure of computer
- 3) Explain Internet, Intranet, search engine and Website ?
- 4) Describe the relevance of computerization in hospital field
- 5) Create a worksheet using fill command



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE017-02 GENERAL PHYSICS & RADIATION 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) What are the two kinds of current 1..... 2.....
- 2) The laws of physics are expressed in terms of
- 3) Ideal Slice thickness for HRCT chest is
- 4) Compound developing solution is known as
- 5) Diagnostic energy range of X rayskvp
- 6) The frontonasal articulation is called.....
- 7) C.T. Scanner was invented
- 8) Sol means
- 9) For a radiation worker annual permissible dose limit is , msv/year
- 10) X-Rays are invented by.....

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) What is electrical insulation ?
- 2) Define Electrical power ?
- 3) Inverse square law
- 4) What is mean by image contrast
- 5) Ohm's law
- 6) Explain a neat labeled diagram of scintillation counter
- 7) Mutual induction
- 8) AP&PA position of the patient
- 9) cathode rays
- 10) wrote down laws of mutual.

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

- 1) What is lenz, s law of electro magnetic induction ?
- 2) GM Counter
- 3) Explain Skyline view & Pillar projection
- 4) Explain Heel effect
- 5) Self induction
- 6) What is mean by image contrast
- 7) Dental radiography
- 8) What are the views for mammography

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

- 1) What is x-rays, characteristics of x-ray beams & Method of measuring x-ray dose of Quantity ?
- 2) What is invisible spectrum (electro magnetic spectrum) & What are the different types of radiation which constitute it ?
- 3) Expalin the importance of General Physics & radiation Physics
- 4) Explain the methods of radiation protection
- 5) Explain the personal monitoring devices



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE017-03 EPIDEMIOLOGY & STATISTICAL ROLE OF THE TECHNICIANS

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) _____ types of epidemiology
- 2) _____ Measurement of central tendency
- 3) Basic measure of disease frequency is or ratio
- 4) The current aim of government is to eradicate disease from India
- 5) HIV virus causes
- 6) disease is eradicated from the world
- 7) The basis of mortality data is the
- 8) Hydrophobia is pathognomonic of
- 9) _____ Measurement of central tendency.
- 10) No. Of _____ methods are epidemiology.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Who is the perspective of epidemiology?
- 2) Correlation ?
- 3) Morbidity rate
- 4) Health
- 5) Components of Epidemiology
- 6) Epidemiological approach
- 7) Epidemiology
- 8) Aims of Epidemiology
- 9) Incubation period
- 10) environment

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

- 1) Explain about the Correlation ?
- 2) Explain the radiology with examples
- 3) Write about mortality rates and ratios
- 4) DPT vaccine
- 5) Descriptive epidemiology
- 6) DPT vaccine
- 7) Correlation.
- 8) Measurement of Central Tendency.

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

- 1) Describe about epidemiology ?
- 2) Write down about Immunity & Immunization ?
- 3) Explain the epidemiology with the importance
- 4) Diseases spread by mosquito
- 5) Write down about Immunity & Immunization



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE017-04 ANATOMY,PHYSIOLOGY & PATHOLOGY IN RELATION TO RADIOLOGY

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) Double layer & covering of the heart is
- 2) Movable facial bone is known as
- 3) Salivary gland produce
- 4) Major function of the kidneys are
- 5) Longest bone of the body is
- 6) Cardiac orifice is the
- 7) Dura matter is of brain
- 8) Joints of the skull is known as
- 9) Outer layer of uterus is known as
- 10) A clearing time test will determine the strength of the fixer solution. An unexposed film placed in the fixer will clear within _____ minutes.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define bony sinuses
- 2) Define endocardium
- 3) Peritoneum
- 4) Neuron
- 5) What are the Ba studies for GIT
- 6) Sialography
- 7) Explain Bronchography
- 8) Surface Marking
- 9) Reproductive system (M & F) common pathological terms.
- 10) Write about elementary physiology of the alimentary and biliary tract.

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

- 1) Define blood pressure & write the factors to maintain normal blood pressure ?
- 2) Explain Physiology with examples
- 3) Structure of lungs
- 4) Write short note above respiratory muscels
- 5) Structure of large intestine
- 6) Structure of stomach
- 7) Formation of urine
- 8) Explain thelobes of liver

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

- 1) What is peripheral nervous system, name & describe the cranial nerve ?
- 2) Write in detail about vertibra column ?
- 3) What is respiration? Explain the process of respiration
- 4) Explain Ba enema & Ba meal
- 5) What is blood composition and process of blood clotting



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE017-05 HUMAN ANATOMY

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) Which bone articulate with the lower end of the radius to form the wrist joint _____
- 2) Who is the longest and strongest bone of the body _____
- 3) Clavicle is also known as
- 4) The right and left pubis meet to form a joint called
- 5) How many phalanges present in each hand-
- 6) The distal row of carpal bones, articulates with the
- 7) Who is the longest and strongest bone of the body
- 8) How many tarsal bones present in each foot
- 9) Sternum is a
- 10) Lack of vitamin B12 in our body leads to

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Neuron ?
- 2) Ball and socket joints ?
- 3) Inclusions of a cell ?
- 4) Liver ?
- 5) Define menopause ?
- 6) Scapula ?
- 7) Pharynx ?
- 8) Differentiate between right and left lungs ?
- 9) Formation and composition of lymph ?
- 10) Ovulation ?

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

- 1) Describe the scapula with diagram ?
- 2) Definition and function of the bones ?
- 3) Describe the femur with diagram ?
- 4) Give briefly description of anatomy of liver ?
- 5) Write short of knee joint ?
- 6) Write the structure of stomach ?
- 7) Explain structure of Skull.
- 8) Explain back bone

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

- 1) Describe the organs involved in the urinary system and the process of formation of urine.
- 2) Write an essay about the parts of Gastro intestinal tract and how it carries out the process of digestion in the human body.
- 3) Explain the bones involved in the formation of hip joint.
- 4) Explain Hip bone and its importance
- 5) Explain the importance of Bones in human Body



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE017-11 CARDIO PULMONARY RESUCITATION & FIRTAID 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) ACLS = _____.
- 2) ECG = _____.
- 3) Cardio Vascular infusion of _____ bleeding.
- 4) Third Skill steps is _____ & _____ .
- 5) USG = _____
- 6) The blood pressure cuff should be at while taking BP
- 7) Fast pulse is called
- 8) Normal blood pressure in humans is
- 9) Normal pulse in humans is
- 10) The drug used to treat skin itching is called

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Adequate breathing ?
- 2) electrical therapy ?
- 3) What is First aid?
- 4) what are the things needed in first aid?
- 5) ABC in CPR
- 6) CPR equipment
- 7) Asphyxia
- 8) Miscarriage
- 9) External chest compression
- 10) Contrast media

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

- 1) Write a CPR Equipment ?
- 2) Who is the dysrhythmia therapy?
- 3) Write the Procedures at major incidents ?
- 4) Write the First-Aid technique of Wounds & bleeding ?
- 5) Types of contrast reactions
- 6) Drugs that should be available in radiology department
- 7) Cardiopulmonary resuscitation by one rescuer
- 8) Transport of patient with neck injury

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

- 1) Role of the technician in emergency situation ?
- 2) Explain The Skill Steps ?
- 3) Write an essay about - various first aid techniques in different situation
- 4) Advanced cardiac life support
- 5) CPR equipment



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE017-12 RADIOGRAPHY INCLUDING 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) The PH valuest fixer is
- 2) is commonly used for hardner
- 3) Colour of the safe light is
- 4) Property of material to emit light immediately following stimulus is
- 5) Xray film is coated film
- 6) Relative importance of high radiographic detail or quick and _____.
- 7) Every thing other than the system is termed as _____ .
- 8) The unit of radiation absorbed dose is
- 9) Rongen is famous for his invention of
- 10) X-ray film coated on both sides with an _____

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Dark room location
- 2) Pass book
- 3) Fluorescence
- 4) Atom
- 5) Qualities of film and factors effecting them
- 6) Phosphorescence
- 7) Hangers
- 8) Radiography
- 9) Hardening agent
- 10) Characteristics of curve

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

- 1) Fluorescent screen
- 2) Hangers
- 3) Humerus (AP)
- 4) Anode heel effect
- 5) Structure of X-ray film
- 6) Filters
- 7) Types of Xray cassette
- 8) Precautions while taking CT scan

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

- 1) Describe about X-ray machine and its parts
- 2) Write an essay about how to maximise tube life
- 3) Digital radiography
- 4) Describe dark room procedures.
- 5) Explain the structure of intensifying screen with the help of diagram



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE017-13 ADVANCED IMAGING 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) MRI SCAN = _____.
- 2) The first CT scanner was called as
- 3) The artifact caused by the petrous temporal bones in the posterior cranial fossa is called
- 4) The inflammation of salivary glands is called
- 5) The version of 3rd generation CT is
- 6) HRCT is commonly used for
- 7) Shape E.D.H is
- 8) atom is abdently prasant in body
- 9) MRI
- 10) FOV

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define four slice
- 2) Principle of CT
- 3) Resonance
- 4) How will you explain to the patient about the steps that will be done by you when they undergo a brain MRI scan
- 5) Thikness
- 6) Piezo electric effect
- 7) Linear probe
- 8) Fatty liver
- 9) Knee coil
- 10) CT number (Hounsfield number)

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

- 1) Explain SDH, EDH&SAH
- 2) Explain Gamma camera
- 3) Management of troma patient is
- 4) Management of a chest for MRI
- 5) Explain Gamma camera
- 6) Explain spiral CT
- 7) Explain CT image formation
- 8) Why CT is more useful than MRI in acute head injury patients

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

- 1) Explain the generations of CT scanner
- 2) Briefly describe the emergency arrangement in CT department
- 3) Different types of contrast medium in used in CT
- 4) Emergency arrangements in MRI department
- 5) Explain about various steps involved in doing a whole spine MRI



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE017-14 RADIO DIAGNOSIS AND EQUIPMENT

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) Intravenous urography is also known as.....
- 2) Radiographic evaluation upper GI stomach & duodenum is called
- 3) Oral cholecystogram investigation has been largely replaced by.....
- 4) Radiographic examination of the bronchial tree with contrast medium is called.....
- 5) The type of film used to make positive is
- 6) For a focused grid 40" FFD is used to avoid
- 7) A single x-ray exposure may raise the temperature of the bombarded area of the tungsten target by dgC
- 8) When filament of an x-ray tube is heated, a space charge is produced
- 9) $E=e \times$
- 10) The quality (energy) of the x-rays generated almost entirely on the x-ray tube

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) two most common Indication of barium swallow
- 2) the exposure factors for hand pa view kvp.ma.time.mas..
- 3) What is radiography
- 4) Attenuation
- 5) ERCP
- 6) PTBI
- 7) power relations hysteric and inherent regulation types of transformers
- 8) condenser effects.
- 9) diaphragms cones and application
- 10) construction closed open care voltage

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

- 1) Write short note on grids, grid types ?(181)
- 2) Write short note on Bucky tables stands ?
- 3) Write short note on sialogram ?
- 4) Position for calcaneam
- 5) Grid and grid ratio
- 6) Protection for patient
- 7) Enteroclysis
- 8) Double and single contrast

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

- 1) Radiographic positioning of upper limb?
- 2) Name the diagnostic equipment of a diagnostics centre & write briefly on tomography ?
- 3) Explain MRI & CT Scan importance?
- 4) Chest radiography
- 5) Angio Cardiography