CENTRAL BHARAT SEVAK SAMAJ

NATIONAL DEVELOPMENT AGENCY, ESTABLISHED IN 1952 BY PLANNING COMMISSION, GOVT. OF INDIA

CENTRAL BOARD OF EXAMINATIONS

BSS NATIONAL VOCATIONAL EDUCATION MISSION

AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-01 COMMUNICATIVE ENGLISH AND COMPUTER FUNDAMENTALS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) It is good _____ health.

2) They are ready _____ the work.

3) _____ You will pass.

4) _____ is father of computer

5) MS word is used for _____

6) Notes and commands can be related to the _____

7) A sheet can be renamed using _____ facility in Ms Excel

8) _____ is used to click and drag to create duplicate.

9) WWW means _____

10) The word computer is comes from the word _____

11) Pronouns are used instead of _____

12) _____ is used for storing temporarily deleted files.

13) _____ key I also used for checking spellings.

14) _____ and _____ sauces used in pasta

15) Scanner is a _____ device

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) Define Pronoun?
2) Define types of sentences?
3) Define kinds of verbs?
4) What is meant by masculine Gender?
5) Digital computer
6) MS Excel
7) Write short notes on 'macro'
8) Link language
9) Formating tool bar
10) Noun phrase
11) Insert column and insert chart
12) Explain Cut, Copy and 'Paste'
13) Write the usage of Transformation?
14) Define Subject
15) Informal letter

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

1) Explain few sentences using "across, at"?
2) Define usage of interjection
3) Define phrase
4) Define modal verbs?
5) Explain types of computer
6) Word area
7) Memory
8) Define kinds of participle

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

1) Explain structure of computer
2) Prepare an essay on women empowerment
3) What is Mail Merge
4) Describe MS Windows
5) Explain in detail about articles?

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AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-02 ANATOMY & PHYSIOLOGY

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) The lower surface of skull is known as _____

2) _____ is the covering of the heart.

3) The normal weight of adult kidney is _____

4) Maxilla is a _____ type of bone

5) Kidney is weight is _____

6) A total of _____ bones from the human skeleton.

7) According to yogic concept _____ health is given preference.

8) Arthritis is consider as _____ disorder.

9) _____ is the main artery in our body

10) Functional unit of kidney is called _____

11) Ovaries in the females which secrete _____ and _____

12) Dense connective tissue is called _____

13) Lateral bone of forearm is _____

14) Bluish discoloration of skin _____

15) The right lung has _____ lobes and left lung has _____ lobes.

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) Meninges
2) Muscular System
3) Peristalisis
4) Floating ribs
5) Voluntary muscles
6) The membrane of the brain
7) Define Physiology.
8) List out the cranial bones.
9) Define Mind
10) Define Pranayama
11) Insula
12) Slice Anatomy
13) BP
14) .....rod shaped cells.
15) Introduction of central nervous system?

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

1) Functions of vertebrae
2) Cerebral atrophy
3) Classification of bones
4) The functions of the liver
5) Draw a neat diagram of neuron?
6) Voluntary muscles
7) Principal blood vessels
8) Write types of fracture?

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

1) Name the parts of Excretory system, Describe anatomy of the kidney.
2) Describe about the innominate bone with the help of neat diagram
3) Describe the skull bone with the help of neat diagram
4) Describe the respiratory system
5) Explain the anatomy of heart with the help of a diagram

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AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-03 ELECTRICITY PHYSICS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) Temporary magnet produced by means of electric current is _____

2) Electrons possess _____ charges

3) Maximum kilovoltage used in diagnostics is _____

4) The dynamo converts _____ to _____ energy

5) These bodies are classified and to posses _____ charge.

6) This movement of electric charge in a conductor is called an _____ current.

7) Electric current is found that one ampere current consist of _____ x108 electrons.

8) L is the self _____ of the circuit.

9) _____ is the functional unit of nervous system.

10) Neurons transmit nerve signal to and from the brain at up to _____ mph.

11) _____ is located in the vertebral column.

12) The space surrounding an electric charge in which another charge experience a force Is called _____ field.

13) Alternating current number of cycles per second is _____

14) Conductors are _____

15) The measurement of film blackness is known as _____

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) Cathode
2) Roll Focus Tube
3) Amphere
4) Volt meter
5) Matter
6) Spark
7) Conductors
8) Function of fixer
9) Dynamo
10) Define Insulators?
11) Define Joule's law of heating?
12) Define isober?
13) Define radiation exposure?
14) Write electric power?
15) Write about potential differences of a cell?

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

1) Anode of X-ray tube
2) Photo timer
3) Capacitance
4) Function of fixer
5) Timer in X-ray machine
6) Preparation of Xrays
7) Wet cell
8) Define magnetic flux?

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

1) Describe the basic X-ray machine
2) Describe transformer and different types of it.
3) Explain about capacitor
4) Briefly explain heat production?
5) Describe in the details structure of an atom?

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AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-04 RADIOLOGY PHYSICS

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) X-ray travel at the speed of _____ m/sec

2) Secondary radiations are _____ rays

3) _____ type of anode is used in dental x-ray machine

4) IRAD meant _____

5) The X-ray tube current measured in _____

6) The X-ray filament is in the form of _____

7) The negative terminal of x-ray film is _____

8) _____ type of anode is used in dental xray machine

9) _____ is used in mobile and dental X-ray unit

10) The capacity of doing a work is called _____

11) Positive pole of the X-ray tube is _____

12) The advantages of TLD is _____

13) The space around the nucleus consist of another important particle called _____

14) X-rays consist of a type of radiation known as _____ radiation

15) Secondary radiations are _____ rays.

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) X-ray
2) MAS
3) Ionizing radiations
4) Fog
5) Film badge
6) Kinetic energy
7) Exposure
8) Focal spot
9) Radiation units
10) REM
11) Heal effect
12) Velocity
13) Intensity of X-rays
14) Transformer
15) Define Fog?

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

1) Shock proofing of X-ray tube
2) Ultra sound
3) Absorbed dose
4) X-ray filtration
5) Radiation exposure, measurement
6) X-ray tube
7) X-ray cassette
8) Describe rectification?

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

1) Fundamentals of X-ray and its sources
2) Explain the uses of X-ray and its physical effect
3) Describe the effects of radiation
4) Explain the local rule of radiation protection
5) Describe characteristic of radiation?

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AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-05 POSITIONING IN RADIOGRAPHY

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) IVP is the special examination of _____
2) Ulna is the longest bone of the _____
3) Lying on the side is known as _____
4) A special study of Oesophagus is called _____
5) Commonly used FFD is _____
6) _____ line extends from the outer cantus of eye to the centre of the external Auditary meatus
7) _____ medicine is used for HSG
8) Median sagittal plane parallel to the table means _____ position
9) Cholecytography is advising to detect the disease inthe _____
10) _____ medicine is used for HSG
11) _____ must be the process by which radiation penetrates the body and reach the films
12) _____ F.F.D is used for chest
13) Radiological imaging of breast is called _____
14) The basic view for shoulder is _____
15) Oral cholecystography is the radiographic examination of _____

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) Photography
2) Scatter radiation
3) Stereoscopy
4) Phlebography
5) Ring finger lateral
6) Projection
7) Antero-Posterior
8) Planes of the body
9) Semi conductors
10) Radiation
11) X-ray tube
12) Define KUB?
13) Describe mandible PA?
14) Describe Pelvis AP?
15) Define positioning of foot?

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

1) Wrist for scaphoid
2) Town's projection
3) Log lateral
4) Safety measures while doing Xray for women
5) Arthrograph
6) Knee joint AP and lateral view
7) Explain HSG?
8) Explain Skull base view?

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

1) Describe chest radiography and its positioning (PA and Lateral views)
2) Describe HSG
3) Describe patella radiography anterior oblique view
4) Explain special investigations of internal organs
5) Explain chest radiography?

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AHE004-X-RAY TECHNICIAN

ONE YEAR EXAMINATION NOVEMBER-2025

AHE004-06 DARK ROOM TECHNIQUES

TIME: 3 Hours **Marks: 100**

INSTRUCTIONS

* 43 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 - ANSWER FOR ANY 10 QUESTIONS **1 x 10 = 10**

1) Safelight voltage is _____

2) PH value of water is _____

3) Dark room temperature is _____

4) Film size of manidble lateral oblique view is _____

5) Safelight voltage is _____

6) The unit of radiation absorbed dose is _____

7) The safety base of a film is known as _____

8) Intensifying screens will improve the efficiency of radiographic _____

9) The thickness of the phosphor layer is about 40 to _____ um.

10) The X-ray film is sensitive to _____ or green light.

11) _____ is a gelatin, containing layer which binds the emulsion layer to the base.

12) The developing agent can act only in a _____ medium.

13) Usually _____ Lamps of < 15 watts are used as safe heights.

14) _____ is the restrainer used in developer.

15) Color of safe light is _____

II. DEFINE THE FOLLOWING - ANSWER FOR ANY 10 QUESTIONS **2 x 10 = 20**

1) Pass book
2) Packing storage of film
3) Agitation in developing
4) Define rest Rainer?
5) Write about means connection of dark room?
6) Define effective dose?
7) Define Genetic effects?
8) Write about uses of X-ray film?
9) Define sub stratum?
10) Write about inside of the cassettes?
11) Write about formula of equivalent dose?
12) Write about the estimation of genetic risk?
13) Write about risk of congenital anomalies?
14) Magnification
15) Distortion

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

1) Fluorescent screen
2) How to clean a cassette
3) Draw the left knee AP view
4) Image unhappiness
5) Intensifying factor
6) Scano gram
7) Draw the characteristic curve & explain them?
8) Write about explain Base & top coat?

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

1) Explain about dorsal vertebrae (APV) and draw the dorsal spine (LV)
2) Write about X-ray Techno logistic Responsible?
3) Write about planning of a Radiation instillation?
4) Write about explained Replenisher & influence of temperature and time?
5) Write about explained film processing of development Drying?