



BHARAT SEVAK SAMAJ

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

AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015
AHE038-01 COMMUNICATIVE ENGLISH & 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) Vowels are in number
- 2) He is running the road.
- 3) Call out
- 4) The 2nd hard disk of P.C. is called
- 5) Word pad is an
- 6) She ran the road
- 7) Windows 98 allows to start an application in.....
- 8) You can enlarge a document using
- 9) The extension of word file is
- 10) Who is the father of computer-----

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define formation of noun words?
- 2) Define adjectives?
- 3) Define interjection?
- 4) What is conjunction?
- 5) Define Adjective
- 6) Define Verb
- 7) What are the Operating System?
- 8) Define Clause
- 9) Briefly explain the table menu in MS Excel
- 10) Explain 'find', 'replace' and 'go to'.

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

- 1) Explain few sentences using "behind, beneath"?
- 2) Define kinds of participle?
- 3) Font
- 4) Work area
- 5) Classification of the computer
- 6) Edit
- 7) Tool bar
- 8) Write details about Charles Babbage?

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

- 1) Write a letter to your friend inviting her to spend a few days with you during the summer vacation?
- 2) Write a letter to a sports company ordering some sports goods?
- 3) Write about the conversation to two person?
- 4) Explain details of Accessories in windows?
- 5) Functions of Word Processing?



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE038-02 ANATOMY, PHYSIOLOGY, BIOCHEMISTRY & PATHOLOGY

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) PL ___ RA.
- 2) OC ___ LO ___ MO ___ O___.
- 3) P ___ R ___ CA ___ D ___ UM.
- 4) UR ___ T ___ R.
- 5) G ___ OMER ___ L ___ S.
- 6) M ___ T ___ CH ___ ND ___ IA
- 7) T ___ SS ___ E
- 8) I ___ L ___ TS of L ___ NG ___ RH ___ NS
- 9) N ___ PH ___ ON
- 10) T ___ BI ___

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Uterus
- 2) Expand GH
- 3) Define Metabolism
- 4) Define Ureter
- 5) Define Urinary System
- 6) Define Neuron
- 7) Define Uterus.
- 8) Myometrium
- 9) Define Skeleton
- 10) Define Propulsion

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

- 1) Atrial Septal Defect.
- 2) Leucocytes
- 3) Ossification
- 4) General description of a Long Bone
- 5) Classify Synovial Joints
- 6) Name the organs of the Alimentary system
- 7) Blood Pressure
- 8) ECG

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

- 1) Classify Tissues. Write in detail about Epithelial tissue with diagrams.
- 2) Classify bones, giving an example of each type. Describe a long bone of your choice with a diagram.
- 3) Write in detail about the Menstrual cycle.
- 4) Describe the Thyroid & write about Thyroxin.
- 5) Describe the Cardiac cycle.



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE038-03 PHARMACOLOGY, MICROBIOLOGY INCLUDING STERILIZATION 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) Killing of microorganisms and their spores is called.....
- 2) are the drugs which relieve pain.
- 3) Rheumatic fever is caused by Beta.....
- 4) _____ is regularly used after coronary intervention as an anti-platelet drug
- 5) _____ and magnesium are cardioprotective in ischemic patients
- 6) In ventricular arrhythmia emergency, a local analgesic drug _____ can be used to reduce the arrhythmia
- 7) AFB stands for _____.
- 8) _____ is the drug of choice for emergency control of convulsions.
- 9) _____ are the drugs which relieve pain .
- 10) _____ stands for non-steroidal anti inflammatory drugs.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Disinfection
- 2) Portal entry of micro organisms.
- 3) Define Calcium channel blockers
- 4) Define AIDS
- 5) Define Digoxin
- 6) Define Lidocaine (Xylocaine)
- 7) Bio-Availability
- 8) Food poisoning
- 9) Pericardial Friction Rub.
- 10) Aortic Stenosis.

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

- 1) Classification of micro organisms.
- 2) Classification of drugs.
- 3) What are the precautions necessary for autoclaving?
- 4) Advantages and disadvantages of injection.
- 5) Thrombolytics.
- 6) Typhoid fever
- 7) Acid fast bacilli
- 8) Chemical disinfection.

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

- 1) Describe about oral administration of medicine and explain the five rights.
- 2) Describe about autoclave with help of neat diagram.
- 3) Define General anaesthetics. Name the stages anaesthesia .Describe about Intravenous anaesthetics.
- 4) Write briefly an account of the drugs used in the management of Angina Pectoris.
- 5) Discuss various prophylactic antibiotics used in cardiac surgery



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015
AHE038-04 CARDIAC ANATOMY & CARDIAC 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) Heart is situated in the _____ mediastinum
- 2) The vessels taking blood back to the heart are called _____.
- 3) The pacemaker of the heart is _____ node.
- 4) Right ventricle is connected to Pulmonary artery through _____ valve
- 5) Left main coronary artery divides into _____ and Left circumflex.
- 6) Blood Pressure is normally recorded by.....
- 7) Cardiac output is determined by ----- and heart rate
- 8) _____ pressure is the difference between the systolic and diastolic blood pressure
- 9) Access for cardiopulmonary bypass is usually done through _____ and venacava.
- 10) _____ artery supplies the heart.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Coronary sinus
- 2) Define Connections of the Right Atrium
- 3) Define Heart sounds
- 4) Formation of the Circle of Willis
- 5) Hilum of the lungs.
- 6) Trace the formation of the Superior Vena Cava
- 7) Importance of Vertebral arteries.
- 8) Trace the path of a Radial Artery catheter from wrist to the coronary arteries.
- 9) Methods to measure central venous pressure.
- 10) Define Superior Vena Cava.

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

- 1) Structure of Inter atrial septum.
- 2) Various methods to measure blood pressure.
- 3) Describe the structure and applied importance of the Right Ventricle.
- 4) Describe briefly Pulmonary circulation.
- 5) Describe briefly Cardio-vascular responses to acute hypovolemia.
- 6) Discuss briefly the purpose of the Renal circulation.
- 7) Pulmonary circulation.
- 8) Cardio-vascular responses to acute hypovolemia.

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

- 1) Chambers and divisions of the Heart.
- 2) Describe the anatomy of Portal Circulation mention its importance.
- 3) Discuss the Anatomy of the Conduction system and the atrio ventricular barrier.
- 4) Describe the anatomy of Coronary circulation and its importance.
- 5) Discuss the mechanism of transport of solutes between the blood and the tissue.



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE038-05 CARDIAC PHARMACOLOGY & CARDIAC PATHOLOGY

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) Heart rate higher than 100 in sinus rhythm is
- 2) Cardiac arrest created is
- 3) Septal malalignment is major factor in the cyanotic condition.....
- 4) Symptomatic Sinus-cardia is pharmacologically corrected by Atropine
- 5) Thrombolysis is commonly done with.....
- 6) Furosemide is a
- 7) Alpha Methyl Dopa causes fall in
- 8) Disease caused by microbial infection in endocardial layer of the heart is called
- 9) Increased pressure in Pulmonary circulation is called
- 10) Reduced blood supply to the coronary artery causes

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Digoxin
- 2) Coronary angioplasty (PTCA)
- 3) Define Balloon Valvuloplasty
- 4) Define Rheumatic fever
- 5) Pericardial Friction Rub.
- 6) Define Aortic Regurgitation.
- 7) Define Cardiomyopathy.
- 8) Define Aortic Stenosis.
- 9) Define Café Coronary.
- 10) Define Ventricular Fibrillation

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

- 1) Persistent Ductus arteriosus
- 2) Myocardial infarction
- 3) Potassium
- 4) Steroids
- 5) Warfarin
- 6) Acute Myocardial infarction ?
- 7) Coarctation of Aorta.
- 8) Patent Ductus Arteriosus.

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

- 1) Discuss various drugs used in the treatment of hypertension
- 2) Shunt lesions of the heart.
- 3) Discuss briefly the various anticoagulants and their use.
- 4) Classify Congenital heart disease. Write short note on major congenital heart disease.
- 5) Describe the causes Pathophysiology and clinical features of Rheumatic Mitral Stenosis.



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015
AHE038-11 CATH LAB TECHNOLOGY - I

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 heart rate slower than 60 per minute is called -----
- 2) ----- is the recording of electrical activity of the heart.
- 3) _____ is the time when the mitral valve is open and aortic valve is closed.
- 4) The basic unit of the cardiac contractile apparatus is -----
- 5) Heart is located in _____.
- 6) Aneurysm is classified into fusiform and _____ types.
- 7) The blood clot obstructing a vein is known as _____.
- 8) Low molecular weight heparins (LMWH) are used in prophylaxis _____- thrombosis
- 9) Heparin dose is adjusted by estimation of _____ time during cardiopulmonary bypass
- 10) In hypertensive emergencies _____ is used as intravenous infusion

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Mitral Valve
- 2) Define Formation of the Circle of Willis
- 3) Define Hilum of the lungs.
- 4) Define Oxygen Carriage in blood
- 5) Define Burmen Angiografic Catheter
- 6) Heparin
- 7) Define Aspirin
- 8) Define Coronary angioplasty (PTCA)
- 9) Define Heart Attack
- 10) Define Double outlet RV

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

- 1) Explain Cardiac output.
- 2) Discuss briefly the purpose of the Renal circulation.
- 3) Mention the precautions to be undertaken for blood transfusion.
- 4) Mention the Blood groups and their importance.
- 5) Explain Mitral Valve
- 6) Protamine Sulphate
- 7) Fibrinolytic agents
- 8) Which are chest electrode positions?

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

- 1) Discuss the Anatomy of the Conduction system and the atrio ventricular barrier.
- 2) Describe the anatomy of Coronary circulation and its importance.
- 3) Draw the Heart diagram and Catheter course by femoral approach.
- 4) Discuss various prophylactic antibiotics used in cardiac surgery.
- 5) Give Detail dietary advice and cardiac Rehabilitation.



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015
AHE038-12 CATH LAB TECHNOLOGY - II

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) Permanent Pacemaker implanted in _____ condition.
- 2) PTMC done for _____ valve Stenosis
- 3) IVC filter is placed in _____
- 4) PDA (non - surgical closure) closure done by using _____
- 5) _____ cm wire used in Coronary Angiogram.
- 6) _____ ml of contrast used in Coronary Angiography
- 7) Radial Artery is used in Cath Lab for _____ & _____
- 8) Left Common Carotid artery is the branch of _____
- 9) Aortic root is arising from _____
- 10) Lima injection given in _____ view

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Introducer Sheaths
- 2) Define Puncture Needle
- 3) Define Linens used in Cath Lab
- 4) Define : ATM, PSI, PPI, PCI
- 5) Define Contrast
- 6) Define Pulse Oximetry Uses in Cath Lab.
- 7) Define ACT Machine
- 8) What are the major equipments in Cath Lab?
- 9) What is normal Heart Rate?
- 10) What is normal Wedge Pressure?

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

- 1) ETO Sterilization
- 2) Washing Catheters and Wires
- 3) Cath Lab X - Ray equipment
- 4) IABP Machine
- 5) Pressure Injector
- 6) Usage of Computer in Cath Lab
- 7) Crash Cart in Cath Lab
- 8) IV fluids in Cath Lab.

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

- 1) Pulmonary Angioplasty
- 2) PTCA materials
- 3) Emergency drugs
- 4) Guiding Catheters
- 5) Primary Angioplasty



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015
AHE038-13 COMPUTERS IN CLINICAL PRACTICE (INTERNAL)

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 short cut key for slide show is _____.
- 2) Ctrl+ S is the shortcut for _____ operation.
- 3) The Mail merge option is in..... menu.
- 4) is the background on which different windows appear.
- 5) shows the name of the application, document, groups or directory.
- 6) is a quick and easy way for mass production of letters, envelopes, mail labels etc.
- 7) E.C.G. means _____
- 8) Heart is _____ and _____ system's Organ .
- 9) F.H.S. means _____ .
- 10) C.V.A. = _____ .

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define mouse
- 2) Define Desktop
- 3) What is folder?
- 4) Explain any 2 functions in MS - Excel.
- 5) Heart Sound ?
- 6) Respiration ?
- 7) How is Cath-Lab do ?
- 8) Define What is folder?
- 9) Define Heart Sound
- 10) Define Respiration

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

- 1) Explain tools menu in MS Word.
- 2) What are the functions of Word Processing?
- 3) Explain any 10 DOS commands.
- 4) Explain any 3 input devices.
- 5) Write Detail about Cardiac Catheterization?
- 6) Write about Interventional Cardiology?
- 7) Write whole Investigation before Cath-Lab.
- 8) Write about pacemaker Implantation?

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

- 1) Explain any 5 functions in MS - Excel.
- 2) What is the purpose of a search engine? Name any 2 search engines.
- 3) Write Detail Dietary advice after Cath-Lab ?
- 4) Which are advance Cardiac Surgery?
- 5) Write Detail Dietary advice after Cath-Lab.



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AHE038-BSS DIPLOMA IN CATH LAB TECHNOLOGY
TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015
AHE038-14 RADIO PHYSICS (INTERNAL)

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) X-Ray travel at the speed of _____ m/sec.
- 2) The filament current is known as _____.
- 3) _____ is used as protective material in radiology.
- 4) All the elements are made up of small particles called _____
- 5) Wave length of X-Ray is _____
- 6) Positive pole of the X-Ray is _____
- 7) IVP is used for the study of _____.
- 8) The X-Ray wave lengths are measured in _____
- 9) Lying on the side is known as _____.
- 10) _____ is the centering line of PNS.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Scatter Radiation
- 2) Define Fluoroscopy
- 3) Define PNS
- 4) Define Mammography
- 5) Define Lead Gloves
- 6) Define Electric charger
- 7) Define Derived units
- 8) Define Dimensional formula
- 9) Define Maximum permissible Dose
- 10) Define Ohm

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

- 1) Explain Quantum theory of Radiation
- 2) Explain Line focus principle
- 3) Explain Different cooling process in X-Ray
- 4) Explain Radiographic parameter
- 5) Explain Pass box & View box
- 6) Explain Nasal bone Radiography
- 7) Explain Capacitor
- 8) Explain Binding energy

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

- 1) Define Radiography. Discuss the different Radiographic parameters to explain a Radiographic view.
- 2) Explain the filters and applications in X-Ray.
- 3) Explain what are Scattered Rays and their importance in Radiography and how their harmful affects may be minimized by the use of a Potter Bucky diaphragm?
- 4) What are the genetic and somatic effects produced by Radiation and how will you protect the patient and yourself from these effects?
- 5) Explain the construction of a X-ray machine.