



BHARAT SEVAK SAMAJ

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

AHE027-BSS DIPLOMA IN ECHO CARDIOGRAPHY & CARDIAC TECHNOLOGY

TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE027-01 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) His uncle lives Delhi.
- 2) She knows English
- 3) Call out
- 4) Write to the abbreviation PIN.
- 5) TCP is
- 6) Computers can only understand language
- 7) The extension of word file is
- 8) The tool bar contains.....related to the.....
- 9) You can enlarge a document using
- 10) Computers can only understand language

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define the adjectives words?
- 2) What is meant by Feminine Gender?
- 3) Subordinate clauses
- 4) Desktop
- 5) Taskbar
- 6) Write short notes on Super Computer
- 7) Briefly explain the table menu in MS Excel
- 8) Explain Header and Footer
- 9) MS Access
- 10) Web layout

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

- 1) Explain few sentences using "may, among, before"?
- 2) Define phrase
- 3) Explain analog and hybrid computer
- 4) Font
- 5) Work area
- 6) Use of 'has' and 'have' in sentences
- 7) Write short notes on 'macro'
- 8) Memory

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

- 1) Explain structure of computer
- 2) What are the advantages of using computer in the Modern Field.
- 3) Explain the classification of computer
- 4) How to create a new folder
- 5) Write briefly about elements of design?



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE027-02 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) ----- is called pacemaker of the heart.
- 2) Diabetes mellitus is due to the deficiency of -----
- 3) The exchange of gas between alveoli and blood is called -----
- 4) ----- is the lung surfactant.
- 5) The membrane covering the brain & spinal cord is -----.
- 6) _____septum separates the left from the right ventricle
- 7) The First heart sound is due to closure of ----- valves.
- 8) Systolic blood pressure above 140 is _____
- 9) _____ pressure is the difference between the systolic and diastolic blood pressure
- 10) Hematemesis is a feature of _____ hypertension

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Myometrium
- 2) Define Pancreas
- 3) Difference between DNA & RNA
- 4) Expand TSH
- 5) Define Physiology
- 6) Define Tissue
- 7) Define Osteoblast
- 8) Formation of Urine
- 9) Mean blood pressure
- 10) Supra ventricular tachycardia

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

- 1) Renal circulation
- 2) Thyroid gland
- 3) Renal circulation
- 4) Skull
- 5) Adrenal gland
- 6) Endocrine system consists.
- 7) Anatomy of the position of the normal heart.
- 8) Scheme of Pulmonary blood flow

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

- 1) Describe a Long bone of your choice.
- 2) Describe Kidney.
- 3) Name the clotting factors. Describe the mechanism of clotting
- 4) Describe a Long bone of your choice.
- 5) Describe the Trachea with a diagram.



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE027-03 HEART FUNCTIONS & MANAGEMENT

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) AFB stands for -----
- 2) The injection of anaesthetic agent into the subarachnoid space is called-- ----
- 3) Alpha Methyl Dopa causes fall in -----.
- 4) Disease caused by microbial infection in endocardial layer of the heart is called -----
- 5) ----- prevents clotting of blood both in vivo & in vitro.
- 6) ----- is a local anaesthetic.
- 7) The massive pericardial effusion leads to -----
- 8) Rheumatic fever is caused by _____.
- 9) Atherosclerotic Plaque can cause a local blood clot is called _____.
- 10) _____ is used for oral anticoagulant therapy.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Lidocaine (Xylocaine)
- 2) Define Dopamine
- 3) Define Shock.
- 4) Define Digoxin
- 5) Define Lidocaine (Xylocaine)
- 6) Define Frusemide
- 7) Define Pericardial Friction Rub
- 8) Define Aortic Stenosis
- 9) Define Double outlet RV.
- 10) Define Cyanosis.

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

- 1) Fibrinolytic agents
- 2) Nitroglycerine
- 3) Dilated Cardiomyopathy
- 4) Dyspnoea.
- 5) Infective Endocarditis
- 6) Risk factors for Coronary artery disease
- 7) Coronary Thrombosis
- 8) Cardiac arrest

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

- 1) Describe the causes Pathophysiology and clinical features of Rheumatic Mitral Stenosis.
- 2) Describe in detail about pathology, symptoms, clinical features, diagnosis, complications & treatment of acute myocardial infarction.
- 3) Discuss briefly the various anticoagulants and their use.
- 4) Discuss the various anticoagulants & their use.
- 5) Describe the heart charge with diagram



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TWO YEARS (FIRST YEAR) EXAMINATION NOV-2015

AHE027-04 CARDIAC DISEASES

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) Veins draining the heart directly to the right atrium are _____ veins
- 2) Left ventricle has _____ papillary muscles
- 3) Pulmonary artery catheter is used to measure _____ output
- 4) Heart is covered by _____ fluid
- 5) Mitral valve has ____ and ____ cusps (name of the cusps)
- 6) Right ventricle has _____ papillary muscles
- 7) Blood pressure above 140/95 is _____
- 8) Coronary angiography is usually done through _____ artery of the upper limb
- 9) When pulmonary arterial pressure is raised it is known as _____
- 10) The most common location for the clot formation _____.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Define Hypoxia
- 2) Define Right atrium.
- 3) Define Hilum of the lungs.
- 4) Define Stroke Volume
- 5) Define Plasma oncotic (osmotic) pressure.
- 6) Define Methods to Measure Left atrial pressure.
- 7) Define Superior Vena Cava.
- 8) Major branches of Descending Aorta
- 9) Define Bio-Chemistry
- 10) Capillary membrane oxygenator

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

- 1) Describe the Conducting system of Heart.
- 2) Describe the anatomy of Portal Circulation & mention its importance.
- 3) Describe briefly the cardiac output and methods to measure the cardiac output
- 4) Describe the Cardiac cycle
- 5) Describe the Heart with a diagram.
- 6) Describe briefly the cardioplegia delivery system
- 7) Defibrillation - internal
- 8) Sites of arterial cannulation

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) Name the parts of Respiratory system and describe the anatomy of Lung
- 3) Describe the Heart with a diagram.
- 4) Describe the on pump beating heart surgery.
- 5) Describe the revival of a person with Cardio respiratory arrest.



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE027-09 ECHO CARDIOGRAPHY

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) Ultrasound represents sound waves with a frequency of _____.
- 2) _____ is the hallmark feature of infective endocarditis
- 3) restores ductual potency in most newborn
- 4) should not be given is LBBB
- 5) Duration of PR segment is
- 6) The contraction is called
- 7) Ventricular repolarization produces
- 8) is the instrument used for measuring BP
- 9) Expand PDA
- 10) & are the 2 methods to calculate Ejection fraction

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Echo features of Pericardial Effusion.
- 2) Systolic, diastolic
- 3) Tachycardia
- 4) Define Continuous Wave Doppler?
- 5) Write the Echo features of Arrhythmogenic RV Cardiomyopathy?
- 6) What are the types of TAPVC?
- 7) What are the uses of Contrast Echo?
- 8) What is side lobe?
- 9) Draw the M-Mode of the Pulmonary Valve
- 10) What are the types of VSD?

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

- 1) QRS complex
- 2) Parasternal long axis view explain with diagram
- 3) What are the Echocardiographic windows and Draw Normal Echo findings?
- 4) What are the complications of Myocardial Infarction?
- 5) Write briefly about Dobutamine Stress Echo?
- 6) Compare the Pulse Wave and Continuous Wave Doppler
- 7) Mention the classification and Echo features of Aortic Dissection?
- 8) Give short notes on Lutembacker's Syndrome?

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

- 1) Arrhythmias, Types, Diagnosis, Treatment
- 2) Explain the normal electrocardiogram with the help of neat diagram
- 3) Mention the Types of Atrial Septal Defect and write about Echo Cardiographic features. Explain the development of Inter Atrial Septum.
- 4) What are the causes of LVOT obstruction and explain Rheumatic Aortic Stenosis?
- 5) Define Infective Endocarditis and Explain the criteria, Echo appearance, complications and role of Trans Esophageal Echo in Infective Endocarditis?



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE027-10 CARDIAC TECHNOLOGY

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) P Wave is due to _____.
- 2) The most common arrhythmia seen in athlete's heart is _____
- 3) The most common arrhythmia seen in athlete's heart is.....
- 4) Hypothermia machine is set to stop while warming at _____ deg C (bath)
- 5) To reduce damage to blood _____ tube is used in pump head.
- 6) Retrograde cerebral perfusion is done through _____ line.
- 7) _____ pressure will increase while using lower sized arterial cannula.
- 8) Statins are used to stall the progress of _____ -sclerosis
- 9) Hypertension treatment should include normally a diuretic _____
- 10) In... there is a single outflow valve.

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Normal QRS complex
- 2) Einthoven's triangle
- 3) What is Technical Dextrocardia
- 4) Explain Stokes Adams Attack
- 5) Write short note on Underdamping
- 6) Mention methods of controlling body temperature during CPB?
- 7) Ventricular fibrillation -on pump
- 8) What is meant by extra corporeal circulation
- 9) Angina and how it will be identified ?
- 10) Aortic Regurgitation.

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

- 1) Write a note on different types of ST Segment Depression.
- 2) Basic principles of Colour Flow Doppler imaging
- 3) Write a note on different types of ST Segment Depression
- 4) Write the Electrocardiographic manifestations of Left Ventricular Hypertrophy.
- 5) Myocardial infarction
- 6) Warfarin
- 7) Cardiac Tamponade.
- 8) Risk factors for Coronary artery disease.

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

- 1) Describe the indications. Procedures, protocols, interpretation & contraindication for Tread Mill Test.
- 2) Describe the manifestations & importance of Bundle Branch Block.
- 3) Describe the Basic structure of a cardiopulmonary circuit for a membrane oxygenator.
- 4) Discuss briefly the various anticoagulants and their use.
- 5) Describe the types, causes. Pathophysiology, complications & treatment of systemic hypertension.



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TWO YEARS (FINAL YEAR) EXAMINATION NOV-2015

AHE027-11 ICU MANAGEMENT

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) Endocrine system produces ____
- 2) _____ is carried in the body by Red blood cells.
- 3) Endocrine system produces
- 4)andare the two types of Bleeding.
- 5) Endocrine system produces
- 6)are formed by two or more Bones.
- 7) is the process used to destroy all living micro organisms.
- 8) Low sugar in the blood causes.....
- 9) Voluntary and Involuntary are the two movements of
- 10) When ligaments and tissues are torn called

II. DEFINE THE FOLLOWING

2 x 10 = 20

- 1) Body regions.
- 2) Fracture.
- 3) Wound
- 4) Mention the types of Cyanotic Congenital heart diseases.
- 5) Pericardial Friction Rub.
- 6) Double outlet RV.
- 7) Cyanosis.
- 8) Rheumatic fever
- 9) Aortic Dissection.
- 10) Atherosclerosis.

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

- 1) Signs of Cardiac arrest
- 2) Causes of Cardiac arrest
- 3) Acute Myocardial Infarction
- 4) Causes of MR
- 5) Types, Location and characteristics of Angina Pectoris.
- 6) Dilated Cardiomyopathy
- 7) Treatment of Rheumatic fever.
- 8) Atherosclerosis.

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

- 1) Explain the causes, investigations and treatment of Infective Endocarditis
- 2) Write about causes, clinical features and treatment of Cardiac failure
- 3) Describe in detail about pathology, symptoms, clinical features, diagnosis, complications & treatment of acute myocardial infarction.
- 4) Describe the causes Pathophysiology and clinical features of Rheumatic Mitral Stenosis.
- 5) Explain the causes, investigations and treatment of Infective Endocarditis