

PROVISIONAL ANSWER KEY

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Question1:-Among the following statements 1, 2, 3, 4, which of the options from A, B, C, D is correct ?

1. SA node is predominantly subepicardial.
2. AV node is predominantly subepicardial.
3. Slow pathway is anterosuperior to Kochs triangle.
4. Penetrating bundle traverses the central fibrous body below the attachment of septal leaflet of Tricuspid Valve.

A:-All are true

B:-All except 3 are true

C:-1 and 3 are true

D:-Only 1 is true

Correct Answer:- Option-D

Question2:-Read the following statements 1, 2, 3, 4 about interatrial septum development. Which of the options from A, B, C, D is correct ?

1. In the interatrial septum development, septum secundum is an infolding of the atrial tissue developing to the right of septum premium.
2. Most common type of Secundum ASD is due to deficiency of the septum premium.
3. Limbus of fossa ovalis present on the left side of the septum is useful in identifying the left atrium in the echo.
4. Sinus venosus ASD is not a true deficiency in the Interatrial septum.

A:-All are true

B:-All except 3 are true

C:-All except 2 and 3 are true

D:-All except 1 are true

Correct Answer:- Option-B

Question3:-Read the following statements 1, 2, 3, 4 regarding cardiac physiology. Which of the options from A, B, C, D is correct ?

1. Wall stress in a cardiac chamber is directly related to pressure and wall thickness and inversely related to radius.
2. An increased HR progressively enhances the force of ventricular muscle contraction and is known as the Bowditch staircase phenomenon.
3. In contrast to the Frank Starling effect which occurs in the next cycle of increase in end diastolic volume, slower force response or adaptation to abrupt increase in afterload is referred to as the Anrep effect.
4. Atrial pressure-volume loop resembles an ellipse.

A:-All are true

B:-All except 2 are true

C:-All except 1 and 4 are true

D:-All except 1 are true

Correct Answer:- Option-C

Question4:-Among the following statements 1, 2, 3, 4, which of the options from A, B, C, D is correct ?

1. It is useful to do coronary CT calcium scoring for decision making in lipid lowering therapy in borderline risk cases.
2. CT is better than transoesophageal echo to differentiate between thrombus and Pannus in a prosthetic valve dysfunction.
3. CT calcium scoring is useful decision making of in low flow low gradient aortic stenosis management.
4. CT is better than MRI and is the investigation of choice in pre TAVR work up.

A:-All are true

B:-All except 2 are true

C:-All except 1 and 2 are true

D:-All except 1 are true

Correct Answer:- Option-A

Question5:-As per ACC/AHA criteria, in a coronary angiography, if there is ostio-proximal lesion of left anterior descending artery of length 18mm with heavy calcification and 75 degree angulation in the lesion, with good visualisation of distal vessels antegrade, the angiographic classification of the lesion will be

A:-Type B1

B:-Type B2

C:-Type A

D:-Type C

Correct Answer:- Option-B

Question6:-Regarding Echo evaluation, read the statements 1, 2, 3, 4. Which of the options from A, B, C, D is correct ?

1. TEE in the mid oesophageal level at 45 degree gives the bicaval view.
2. Nyquist limit in pulse wave Doppler evaluation is equal to pulse repetition frequency \times 2.
3. In continuous wave Doppler study of aortic valve flow in severe aortic stenosis, peak to peak gradient is measured.
4. Pressure half time is approximately equal to the time taken for a fall in velocity from the peak velocity to a velocity of 70 percentage of peak velocity.

A:-All are true

B:-Only statement 4 is true

C:-Only statements 2 and 3 are true

D:-All are false

Correct Answer:- Option-B

Question7:-Among the following statements 1, 2, 3, 4, which of the options from A, B, C, D is correct ?

1. The Fick method relies on the principle that blood flow (cardiac output) is directly proportional to the extent of oxygen extraction.
2. Systemic vascular resistance index is equal to systemic vascular resistance divided by body surface area.
3. A systolic area index \geq 1.1 has high sensitivity and specificity for identifying constructive pericarditis Vs restrictive cardiomyopathy.
4. In a post PVC, LV aorta pressure tracing, increased gradient, delayed aortic pressure upstroke and normal or widened pulse pressure suggests hypertrophic cardiomyopathy.

A:-All are true

B:-Only statement 3 is true

C:-All except 4 is true

D:-All are false

Correct Answer:- Option-B

Question8:-Read the following statements. Which of the options from A, B, C, D is correct ?

1. iFR does not require pharmacologic vasodilation.
2. The critical cutoff for iFR is a ratio of diastolic coronary to aortic pressure of 0.69 versus 0.80 for FFR.
3. In FFR measurement, usually the coronary venous pressure is assumed as mean RA pressure of 5mm of Hg.
4. Patients with angiographically significant coronary stenosis but fractional flow reserve (FFR) of 0.85 or greater who underwent optimal medical treatment alone displayed a significantly lower incidence of myocardial infarction compared to patients undergoing PCI plus optimal medical treatment, as per DEFER study.

A:-All are true

B:-Only statement 1 is true

C:-All except 4 is true

D:-All except 2 and 4 are true

Correct Answer:- Option-B

Question9:-Read the following statements 1, 2, 3, 4 which of the options from A, B, C, D is correct ?

1. Naxos disease is an autosomal recessively inherited disease affecting desmosome proteins.
2. Swimming and exertion-induced cardiac events are strongly associated with long QT 1 and is associated with mutations in SCN5A.
3. SCN5A mutations are associated with a higher incidence of conduction abnormalities in Brugada syndrome patients.
4. Mutations in the sarcomeric gene titin (TTN) is associated with peripartum cardiomyopathy.

A:-All are true

B:-All except 2 are true

C:-All except 4 are true

D:-All except 1 are true

Correct Answer:- Option-B

Question10:-Read the following statements 1, 2 and 3. Which of the options from A, B, C, D is correct ?

1. Inclisiran is a small, synthetic, two-stranded interfering siRNA.
2. Mavacamten overcomes haploinsufficiency through gene editing of the causal variants in MYBPC3 variants in Hypertrophic cardiomyopathy.
3. Partisiran, for TTR gene silencing in the liver is a therapeutic strategy in ATTR amyloidosis.

A:-All are true

B:-Only 1 is true

C:-All except 2 are true

D:-Only 3 is true

Correct Answer:- Option-C

Question11:-Which of the following is not correct ?

A:-Efficiency of Co enzyme Q 10 in patients with chronic coronary artery disease was studied in Q SYMBIO trial in 420 patients and showed significant improvement in symptomatic status and mortality in the long term

B:-Both symptomatic and asymptomatic Atrial fibrillation showed a statistically significant low recurrence rate in yoga My heart study

C:-Psyllium a fiber supplement could achieve a significant reduction of LDL-C

D:-Red yeast rice can achieve a significant reduction of LDL-C

Correct Answer:- Option-A

Question12:-Which of the following statements is true ?

A:-Simvastatin was the first approved HMG CoA reductase inhibitor for lowers LDL-C lowering

B:-Monacolin K is a plant derived statin molecule

C:-Ezetimibe is a potent HMG CoA reductase inhibitor that lowers LDL-C

D:-Physicians Health study proved that Multy Vitamins despite prolonged use of more than 20 years has no role in reducing the risk of occurrence of a major cardiovascular event

Correct Answer:- Option-B

Question13:-Chest pain history with maximum likelihood of acute Myocardial Infarction is

A:-Worse than previous angina or similar to previous myocardial Infarction

B:-Radiation to left arm or shoulder

C:-Radiation to right arm or shoulder

D:-Radiation to both arms or shoulders

Correct Answer:- Option-C

Question14:-Which of the following statements is correct regarding treatment of Non ST Elevation ACS ?

A:-Ranolazine inhibits outward potassium current and decreases short term mortality

B:-Nicorandil activates ATP sensitive potassium channels, dilates arterioles and reduces mortality

C:-Trimetazidine shifts myocardial metabolism from fatty acid to glucose and lowers short term mortality

D:-Beta blockers reduce heart rate, contractility and blood pressure and reduces ischaemic burden with no effect on mortality

Correct Answer:- Option-C

Question15:-Regarding antithrombotics which statement is correct ?

A:-Fondaparinux and Dabigatran are direct thrombin inhibitors

B:-Apixaban and Enoxaparin inhibit Factor X

C:-Bivalirudin and Dabigatran directly inhibit Thrombin

D:-Enoxaparin directly inhibits activated factor X and Thrombin

Correct Answer:- Option-C

Question16:-Which is not a feature of Radiotherapy induced Mitral Stenosis ?

A:-Usually manifests as a combination of MS and MR

B:-Usually develops in about two decades after exposure

C:-Calcification of the cardiac fibrous skeleton is common

D:-Fibrosis of sub valvar structures with commissural fusion is the underlying pathology

Correct Answer:- Option-D

Question17:-Diastolic Mitral regurgitation is seen in all except

A:-Complete Heart block

B:-Hypertrophic Obstructive Cardiomyopathy

C:-Acute Severe Aortic Regurgitation

D:-Dilated Cardiomyopathy

Correct Answer:- Option-B

Question18:-Which of the following is not true regarding Mitral annular disjunction (MAD) ?

A:-MAD is characterised by abnormal spatial displacement of Anterior mitral leaflet

B:-It is a marker of Ventricular arrhythmias and sudden death

C:-MAD can occur as an independent entity without associated Mitral Valve Prolapse

D:-There is a systolic increase of mitral annulus diameter

Correct Answer:- Option-A

Question19:-Identify the incorrect statement.

A:-Aortic Valve homografts does not require post procedure anti coagulation or Immune suppression

B:-Aortic autografts (ross procedure) has the ability to increase in size as the child grows

C:-For a given aortic annulus TAVR valve is less likely to have patient prosthesis mismatch than SAVR

D:-Patients with a bioprosthetic valve replaced in aortic position have a better survival rate than a mechanical aortic valve prosthesis

Correct Answer:- Option-D

Question20:-Which of the following statements is true regarding infective endocarditis (IE) ?

A:-Fungi are the most common aetiological agents in IV drug abusers with IE

B:-Staphylococcus Aureus is more common than Streptococcus Viridans in Community acquired IE

C:-Anti microbial prophylaxis against infection is recommended for patients with an implanted ICD/pacemaker undergoing genitor urinary procedures

D:-None of the above

Correct Answer:- Option-D

Question21:-Which of the following is true regarding un corrected transposition of Aorta ?

A:-Arterial switch is associated with a high incidence of severe Aortic regurgitation warranting Aortic valve replacement in 3rd decade of life

B:-Nikaidoh Procedure involves translocation of the Aortic root to the LV outflow and it eliminates the need for translocation of Coronary arteries

C:-Rastelli, REV and Senning's operation involves the use of a Baffle

D:-None of the above

Correct Answer:- Option-D

Question22:-Least Common cardiac tumour identified in fetuses, stillborns and neonates is

A:-Myxoma

B:-Teratoma

C:-Rhabdomyoma

D:-Fibroma

Correct Answer:- Option-A

Question23:-Doppler echo cardiographic criteria for Pathologic Mitral regurgitation include all except

A:-Seen in at least 2 views

B:-Regurgitant jet length more than 2 cm in at least 1 view

C:-Peak velocity $\geq 3\text{m/s}$

D:-Pan systolic regurgitant jet in at least 3 envelopes

Correct Answer:- Option-D

Question24:-Drug that can cause "Hypersensitivity" myocarditis is

A:-Anthracylin Antibiotics

B:-Cyclophosphamide

C:-Lithium Carbonate

D:-Amphotericin B

Correct Answer:- Option-D

Question25:-Find out the correct statement.

A:-Absence of Intrahepatic IVC with Azygos continuation is the most common systemic venous anomaly

B:-Abernethy malformation refers to intra hepatic Porto Systemic Shunt

C:-Absence of venous duct can predispose to and present as hepatic encephalopathy

D:-A persistent LSVC draining into coronary sinus can be a reason for congenital left Mitral stenosis

Correct Answer:- Option-D

Question26:-Which among the following statements is not correct ?

A:-NT-proBNP and not BNP is useful in patients under treatment with ARNI

B:-In the BNP (Breathing Not Properly) trial, a BNP concentration of 100 pg/mL was the cut off to diagnose acute heart failure

C:-Older patients are expected to have generally higher concentrations of BNP or NT-proBNP in the absence of clinical HF

D:-Obese patients with HF have higher natriuretic peptide concentrations compared to non obese patients

Correct Answer:- Option-D

Question27:-In treatment of acute decompensated heart failure, a satisfactory diuretic response to I.V. loop diuretic can be defined as

A:-A urine sodium content > 50 to 70 mEq/L at 2 h and /or by a urine output > 100 to 150 mL/h during the first 6 h

B:-A urine sodium content > 25 to 30 mEq/L at 2 h and /or by a urine output > 100 to 150 mL/h during the first 6 h

C:-A urine sodium content > 100 to 150 mEq/L at 2 h and /or by a urine output > 50 - 75 ml/h during the first 6 h

D:-A urine sodium content > 100 - 150 mEq/L at 2 h and /or by a urine output > 100 to 150 mL/h during the first 6 h

Correct Answer:- Option-A

Question28:-Which among the following is not true ?

A:-Cardiomyopathy surveillance is recommended for survivors treated with dose of ≥ 250 mg/m² of anthracyclines

B:-Impella is a device, which can be implanted percutaneously for mechanical circulatory support which provides pulsatile flow from LV to Aorta

C:-Calcineurin inhibitors are used in cardiac transplant persons as immunosuppression

D:-ISHLT CAV grade 3 represents the most extensive degree of coronary disease in cardiac transplant patients

Correct Answer:- Option-B

Question29:-In the comorbidities in chronic heart failure which among the following is false ?

A:-In patients with HF, iron deficiency is defined as either a serum ferritin concentration < 100 ng/mL or 100 to 299 ng/mL with transferrin saturation (TSAT) <20%

B:-Sarcopenia is defined as the sum of the muscle mass of the four limbs, 2 standard deviations below the mean of a healthy reference group aged 18 to 40 years with a cut-off value of 7.26 kg/m² for men

C:-Serum potassium levels have a U-shaped relation with mortality in heart failure patients

D:-GLP-1 receptor agonists are recommended for the prevention of HF events in patients with diabetes

Correct Answer:- Option-D

Question30:-Regarding Cardiac Resynchronisation Therapy (CRT) in heart failure the following is false.

A:-COMPANION trial showed significant change in diastolic pressure after CRT

B:-CRT raises the systolic blood pressure, creating opportunity to either maintain or further uptitrate medical therapies that were limited by hypotension pre-CRT

C:-Female sex and smaller left atrial volume are associated with 'Super responder' response in CRT in heart failure

D:-Patients with AF were excluded from most of the pivotal trials of CRT

Correct Answer:- Option-A

Question31:-Which one among the following cause of secondary hypertension presents with Hyperkalemia ?

A:-Liddle syndrome

B:-Gordon syndrome

C:-1 beta-hydroxylase deficiency

D:-17 alpha-hydroxylase deficiency

Correct Answer:- Option-B

Question32:-Which among the following antihypertensives cannot be given to a lactating mother ?

A:-Nifedipine

B:-Alpha methyl Dopa

C:-Angiotensin converting enzyme inhibitor

D:-Angiotensin receptor Blocker

Correct Answer:- Option-D

Question33:-Which statement is wrong regarding management of hypertension ?

A:-In patients with chronic kidney disease, a BP target of less than 120/70 mmHg is not recommended

B:-In aortic dissection and hypertensive emergency, immediately goal is to reduce systolic BP to < 120mmHg and heart rate to < 60 bpm

C:-In a pregnant woman with severe hypertension living in a rural area away from a maternity hospital, 10mg short-acting nifedipine may be administered sublingually

D:-Urapidil can be used in hypertensive crisis

Correct Answer:- Option-C

Question34:-One among the following is wrong regarding hypertension.

A:-In patients with haemorrhagic stroke and < 6h after symptom onset, a BP < 140/90 mmHg can be considered to avoid hematoma expansion

B:-Newly diagnosed woman with (i) higher hypertension grades, (ii) on-treatment for uncontrolled hypertension or (iii) a history or a high risk of CVD, should not receive estrogen-based contraceptive pills

C:-Orthostatic hypotension is defined as a decline in SBP of at least 20mmHg or in DBP of at least 10mmHg within 3 min of standing

D:-Hypertension that develops de novo at or after 24 weeks of pregnancy is classified as gestational hypertension

Correct Answer:- Option-D

Question35:-The following is wrong regarding the trials related to hypertension.

A:-HYVET trial showed that in hypertensive patients aged 80 years or more antihypertensive treatment was accompanied by a reduced risk of CV events and all-cause mortality

B:-SPRINT study showed that in patients > 75 years, there was benefit for intensive BP control in frail patients

C:-RADIANCE-II trial used radiofrequency ablation for renal denervation and showed reduction in daytime systolic BP reduction

D:-In true resistant hypertension, the fourth line treatment should include the MRA spironolactone as per PATHWAY-2 trial

Correct Answer:- Option-C

Question36:-In pericardial tamponade the following is true.

A:-The normal inspiratory increase in systemic venous pressure is retained

B:-Square root" sign in ventricular pressure is seen in Cardiac tamponade

C:-An absent y descent and loss of diastolic venous inflow are considered classic in cardiac tamponade

D:-The x descent in RA pressure is characteristically absent

Correct Answer:- Option-C

Question37:-The following is false in constrictive pericarditis.

A:-Annulus reverses in tissue Doppler of mitral annulus is seen in constrictive pericarditis

B:-The RA pressure tracing shows a preserved x descent and prominent y descent

C:-Systolic area index is low in constrictive pericarditis and is used to differentiate from restrictive cardiomyopathy. Systolic area index ratio less than 1 strongly suggests constriction

D:-LV and RV diastolic pressures track closely and rarely differ by more than 3 to 5 mm Hg

Correct Answer:- Option-C

Question38:-In constrictive pericarditis which is true ?

A:-MRI is the best investigation to assess pericardial thickness

B:-Hepatic veins demonstrate enhanced expiratory flow reversal with constriction, in contrast to increased inspiratory flow reversal in restriction

C:-Preserved or increased medial mitral annulus e'velocity [$>9\text{cm/sec}$] is suggestive of restrictive cardiomyopathy than constriction

D:-Severe pulmonary hypertension is common in constrictive pericarditis

Correct Answer:- Option-B

Question39:-Which statement is false ?

A:-Riloncept is a drug used to treat constrictive pericarditis

B:-Pericarditis with associated atrioventricular block can occur in Lyme disease

C:-Congenital absence of pericardium may be associated with bicuspid aortic valve

D:-The "waffle" procedure is done in constructive pericarditis

Correct Answer:- Option-A

Question40:-Gold paint pericardial effusion occurs in

A:-Hypothyroidism

B:-Markedly exudative pericardial effusion

C:-Familial hypercholesterolemia

D:-Digoxin toxicity

Correct Answer:- Option-A

Question41:-The following is false in the management of cardiac arrest.

A:-In the BLS, the recommended sequence is Circulation-Airway-Breathing

B:-In Cardiac arrest with shockable rhythm, the initial shock to be delivered is 120 to 200 J by biphasic devices

C:-In cardiac arrest with shockable rhythm, 3 successive shocks are to given when first shock is ineffective in reverting to a rhythm consistent with pulse generation

D:-For pulseless electrical activity DC Shock should not be given

Correct Answer:- Option-C

Question42:-Which statement regarding management of VT is false ?

A:-Verapamil is the drug of choice for fascicular VT with stable hemodynamics

B:-In PROCAMIO trial, procainamide was compared with amiodarone and procainamide was found to be better than amiodarone in pharmacological termination of a haemodynamically tolerated VT

C:-An electrical storm is defined as three or more episodes of sustained VA occurring within 1 h, requiring either anti-tachycardia pacing (ATP) or cardioversion/defibrillation, with each event separated by at least 5 min

D:-Electric Cardioversion is not indicated in repetitive monomorphic VT

Correct Answer:- Option-C

Question43:-Which statement is true ?

A:-Class 1a antiarrhythmic drugs prolong the action potential duration

B:-Class 1b antiarrhythmic drugs prolong the action potential duration

C:-Class 1C antiarrhythmic drugs prolong the action potential duration considerably

D:-Class 1 antiarrhythmic drugs act by stimulating fast sodium channel

Correct Answer:- Option-A

Question44:-Which among the following is false ?

A:-Non-selective beta-blockers are recommended in LQTS patients with documented QT interval prolongation, to reduce risk of arrhythmic events

B:-Mexiletine is indicated in LQT3 patients with a prolonged QT interval

C:-Quinidine is contraindicated in patients with Brugada Syndrome

D:-Nicorandil may be avoided in short QT syndrome

Correct Answer:- Option-C

Question45:-Which among the following is false regarding ablation therapy in arrhythmia ?

A:-In RF ablation of cardiac arrhythmias cooling of the catheter tip electrode produces a larger lesion and potentially enhance efficacy

B:-In AVNRT, slow pathway ablation is associated with a higher risk of prolonged PR interval, a higher recurrence rate and higher risk for complete AV block compared with fast pathway ablation

C:-Chemical ablation of an area of myocardium using alcohol can be used for treatment of VT refractory to drug and standard catheter ablation

D:-For Cryoablation, nitrous oxide is used for pulmonary vein isolation to treat paroxysmal AF

Correct Answer:- Option-B

Question46:-Which among the following is not a component of revised cardiac risk index for preoperative risk assessment for non cardiac surgery ?

A:-High-risk type of surgery

B:-Preoperative use of 3 or more drugs to control hypertension

C:-Diabetes needing preoperative treatment with insulin

D:-Preoperative serum creatinine concentration greater than 2.0 mg/dL

Correct Answer:- Option-B

Question47:-Regarding the inhalational anaesthetic agents the following statement is true.

A:-Isoflurane causes negative inotropic effects and has minimal effects on baroreceptor function

B:-Desflurane has a slow onset of action compared to sevoflurane and isoflurane

C:-Sevoflurane is an extremely pungent smell and this is a disadvantage

D:-All inhalational agents lead to increase in myocardial oxygen demand

Correct Answer:- Option-A

Question48:-Regarding preoperative preparation and perioperative management of cardiac complications which among the following statement is correct ?

A:-Data from DECREASE shows that HR control reduced the incidence of perioperative MI, with the greatest benefit achieved if HR was controlled to less than 70 beats/min

B:-Perioperative Ischemic Evaluation (POISE) trial demonstrated that an acute high-dose beta blockade protocol in patients naïve to beta adrenergic blockade therapy was associated with better outcome in the metoprolol arm, in cases of emergency surgery

C:-MANAGE trial showed that higher postoperative Troponin levels are associated with higher mortality

D:-VISION study studied the effect of dabigatran 110 mg BID or placebo in postoperative noncardiac surgery patients with an elevated troponin level

Correct Answer:- Option-A

Question49:-In a patient with Eisenmenger syndrome, which of the following is false regarding anaesthesia and perioperative management ?

A:-Perioperative cardiovascular complications are 5%-25%

B:-Anaesthetic agents which have minimal reduction in SVR is preferred

C:-It is preferable to use IV lines with air filters

D:-Ventilation with high airway pressures is preferred to maintain better oxygen saturation

Correct Answer:- Option-D

Question50:-Which among the following statement is wrong ?

A:-Remifentanil is long acting compared to fentanyl and is hence preferred in long duration procedures

B:-Etomidate has negligible effects on cardiovascular and respiratory effects with mild reductions in blood pressure and ventilation

C:-Vecuronium is a muscle relaxant which has nearly no cardiovascular side effects, compared to atracurium which can cause some hypotension caused by histamine release

D:-Pancuronium has an atropine-like structure and can cause tachycardia that is detrimental in ischemic patients and those with stenotic valvular lesions

Correct Answer:- Option-A

Question51:-Regarding genes implicated in causing/related to higher susceptibility to cardiomyopathies and their importance in management, which among the following is false ?

A:-Truncating variants in titin is the most common genetic abnormality associated with dilated cardiomyopathy

B:-PKP2 gene related to protein Plakophilin 2, which is a Desmosomal protein, is linked with development of peripartum cardiomyopathy

C:-MYH7 and MYBPC3 together account for 80% of cases of HCM where a genetic abnormality can be identified

D:-Presence of sarcomeric pathogenic mutation in HCM is a risk factor which is considered in decision making in ICD implantation

Correct Answer:- Option-B

Question52:-In a 60-year male patient with HCM with LVOT gradient of 70 mm of HG, EF of 65%, with NYHA class II dyspnoea and glaucoma, which drug should be avoided ?

A:-Metoprolol

B:-Disopyramide

C:-Verapamil

D:-Mavacamten

Correct Answer:- Option-B

Question53:-In diagnosis of Arrhythmogenic Right Ventricular Cardiomyopathy which among the following is not a major criterion ?

A:-Fractional area change of RV < 33% by 2D echo

B:-Residual myocytes 60% - 75% by morphometric analysis with fibrous replacement of RV free wall myocardium in at least one sample, with or without fatty replacement of tissue seen on endomyocardial biopsy

C:-Regional RV akinesia, dyskinesia or aneurysm by RV angiogram

D:-Epsilon wave (reproducible low-amplitude signals between end of QRS complex to onset of T wave) in right precordial leads (V1-V3) in ECG

Correct Answer:- Option-B

Question54:-Braunwald-Brockenbrough-Morrow sign in hypertrophic cardiomyopathy is

A:-Increase in LVOT gradient following a PVC (premature ventricular contraction)

B:-Decrease in aortic diastolic pressure following a PVC

C:-Increase in aortic systolic pressure following a PVC

D:-Decrease in pulse pressure following a PVC

Correct Answer:- Option-D

Question55:-One among the following statement is false.

A:-EMF affects more females more than males and a bimodal peak in age has been noted with onset in the first decade and a second peak occurring in the second to fourth decades of life

B:-In ARVC, biventricular involvement occurs in up to 50% of cases

C:-Patients with ARVC exhibit a typical monomorphic ventricular tachycardia (VT) characterized by left bundle branch block morphology with an inferior axis

D:-InterTAK Clinical Score of > 70 is highly suggestive of takatsubo cardiomyopathy compared to acute coronary syndrome

Correct Answer:- Option-C

Question56:-Individual who has a first degree relative with atrial fibrillation has _____% increased risk of developing atrial fibrillation

A:-10%

B:-20%

C:-30%

D:-40%

Correct Answer:- Option-D

Question57:-Annual risk of stroke is approximately _____ when CHA₂DS₂VASC score is 3

A:-1%

B:-2%

C:-3%

D:-4%

Correct Answer:- Option-C

Question58:-Antibody fragment that reverses the anticoagulant effect of dabigatran is

A:-Bevacizumab

B:-Alemtuzumab

C:-Idarucizumab

D:-Rituximab

Correct Answer:- Option-C

Question59:-After implantation of watchman device anticoagulation with warfarin is recommended for a minimum period of

A:-7 days

B:-14 days

C:-28 days

D:-45 days

Correct Answer:- Option-D

Question60:-Drugs that can be administered intravenously for cardioversion of atrial fibrillation are all the following except

A:-Ibutilide

B:-Procainamide

C:-Amiodarone

D:-Propafenone

Correct Answer:- Option-D

Question61:-Opening angle of leaflets of mechanical valves relative to annulus plane ranges from

A:-30°-45°

B:-45°-60°

C:-60°-75°

D:-75°-90°

Correct Answer:- Option-D

Question62:-

Aortic prosthetic patient mismatch occurs in specific groups of patients except

A:-Pre existing lv dysfunction

B:-Severe lv hypertrophy

C:-Concomitant mitral regurgitation

D:-More than 65 years

Correct Answer:- Option-D

Question63:-Incidence of prosthetic valve endocarditis after TAVI occurs with incidence of _____ per patient year.

A:-0.5-1%

B:-1-3%

C:-4-6%

D:-10-15%

Correct Answer:- Option-A

Question64:-

Emergency surgery is reasonable for patients with left sided mechanical valve thrombosis and all of the following except.

A:-Shock

B:-Nyha functional class II-IV symptoms

C:-Large thrombus burden $> 0.8 \text{ cm}^2$ m TEE

D:-Failure to respond to unfractionated heparin

Correct Answer:- Option-D

Question65:-Medical treatment alone is more likely to succeed in prosthetic valve endocarditis except

A:-Occuring > 6 months after surgery

B:-Staphylococcal infection

C:-Streptococcus viridans infection

D:-

Caused by hACEK organism

Correct Answer:- Option-B

Question66:-The predictors of intervalvular fibrosa invasion in infective endocarditis include all except

A:-Presence of prosthetic valve

B:-Aortic location

C:-Mitral location

D:-Infection with coagulas negative staphylococci

Correct Answer:- Option-C

Question67:-Occult embolism in infective endocarditis may occur in approximately _____% of patients

A:-5

B:-10

C:-15

D:-20

Correct Answer:- Option-D

Question68:-All the following are organisms usually associated with late prosthetic valve endocarditis (> 1 year after placement)

A:-Staphylococcus aureus

B:-Coagulase negative staphylococci

C:-Viridans group streptococci

D:-Aeorobic gram negative Baccili

Correct Answer:- Option-D

Question69:-Drugs which can be used for infective endocarditis caused by hacek organisms are all except

A:-Ceftriaxone

B:-Ampicillin

C:-Gentamicin

D:-Ciprofloxacin

Correct Answer:- Option-C

Question70:-Absolute contraindication for TAVI include all except

A:-Estimated life expectancy < 1 year

B:-Active endocarditis

C:-Comorbidity suggesting lack of improvement of quality of life

D:-Severe lv dysfunction

Correct Answer:- Option-D

Question71:-Which is true of wasid trial comparing warfarin to aspirin in symptomatic intracranial disease ?

A:-Rate of recurrent ischemic stroke less with warfarin

B:-Intracranial bleed more with warfarin

C:-Non stroke related vascular death more with warfarin

D:-Major hemorphage more with warfarin

Correct Answer:- Option-D

Question72:-Jupiter study using rosuvastatin found that there was _____% reduction in stroke.

A:-20

B:-30

C:-40

D:-50

Correct Answer:- Option-D

Question73:-In patients with rtPA given for stroke the drug should be discounted if platelet count is less than _____.

A:-2,00,000

B:-1,50,000

C:-1,20,000

D:-1,00,000

Correct Answer:- Option-D

Question74:-90% of central nervous system embolisation of infective endocarditis involves.

A:-Anterior cerebral artery

B:-Middle cerebral artery

C:-Posterior cerebral artery

D:-Vertebral Artery

Correct Answer:- Option-B

Question75:-

Dimensionless index indicates valvular obstruction in prosthetic aortic valve if value is less than _____.

A:-Less than 1

B:-Less than 1.5

C:-Less than 0.75

D:-Less than 0.25

Correct Answer:- Option-D

Question76:-A 43-year-old patient presents with progressive exertional dyspnea and fatigue. On examination, a systolic murmur is best heard along the left sternal border, which increases with inspiration. Transthoracic echocardiography reveals severe tricuspid regurgitation, right atrial enlargement and interventricular septal flattening.

Based on the clinical and echocardiographic findings, pulmonary hypertension is suspected. Which of the following parameters is not suggestive of high-risk disease according to current pulmonary hypertension risk stratification guidelines ?

A:-Rapid progression of symptoms

B:-NT-proBNP level > 1100 ng/L

C:-Six-minute walk distance > 440 meters

D:-Right atrial pressure > 14 mmHg

Correct Answer:- Option-C

Question77:-A 50-year-old woman with idiopathic pulmonary arterial hypertension is undergoing follow-up evaluation. She is clinically stable in WHO functional class II. Echocardiography shows the following :

- TAPSE : 1.9 cm

- RV S' : 10.5 cm/s
- RV fractional area change (FAC) : 36%
- RV global longitudinal strain : -11%
- Right atrial area : 27 cm²

Which of the following is the most sensitive indicator of early right ventricular dysfunction in this patient ?

A:-TAPSE

B:-RV S' (tissue Doppler velocity)

C:-RV fractional area change

D:-RV global longitudinal strain

Correct Answer:- Option-D

Question78:-A 32-year-old woman presents with progressive dyspnea (WHO FC IV), syncope and signs of right heart failure. She is diagnosed with heritable pulmonary arterial hypertension (HPAH).

Right heart catheterization shows :

- mPAP : 55 mmHg
- Cardiac index : 1.8 L/min/m²
- RAP : 12 mmHg

Acute vasoreactivity testing with inhaled nitric oxide shows :

- mPAP decreases to 46 mmHg
- No change in cardiac output

What is the most appropriate initial management strategy ?

A:-Initiate high-dose amlodipine therapy

B:-Start oral monotherapy with a PDE5 inhibitor

C:-Begin upfront oral dual combination therapy (ERA + PDE5 inhibitor)

D:-Initiate combination therapy including intravenous epoprostenol

Correct Answer:- Option-D

Question79:-A 36-year-old female with idiopathic pulmonary arterial hypertension (IPAH) undergoes cardiac MRI for prognostic assessment. Which of the following findings is not associated with better survival ?

A:-Right ventricular end-diastolic volume index (RVEDVI) $< 84 \text{ mL/m}^2$

B:-Left ventricular end-diastolic volume index (LVEDVI) $> 40 \text{ mL/m}^2$

C:-Stroke volume index (SVI) $> 25 \text{ mL/m}^2$

D:-Right ventricular ejection fraction (RVEF) $< 35\%$

Correct Answer:- Option-D

Question80:-A patient with PAH on triple therapy (ERA + PDE5 inhibitor + IV prostacyclin) remains symptomatic. Which of the following is true regarding sotatercept ?

A:-It is contraindicated with prostacyclin

B:-It should replace prostacyclin

C:-It can be added irrespective of background therapy

D:-It is only useful in early-stage disease

Correct Answer:- Option-C

Question81:-Which of the following statements is/are correct about Abdominal Aortic Aneurysms (AAA) ?

i. AAAs are the most common form of aortic aneurysms.

ii. Most AAAs ($>80\%$) arise in the pararenal part of abdominal aorta.

iii. Current smokers are seven times more likely to have an AAA than nonsmokers.

A:-Only i and ii

B:-Only ii and iii

C:-Only i and iii

D:-i, ii and iii

Correct Answer:- Option-C

Question82:-Which of the following statements regarding Kommerell Diverticulum (KD) is/are correct ?

i. KD is the embryologic remnant located at the origin of an aberrant subclavian artery.

ii. KD may lead to aneurysmal dilatation, rupture or aortic dissection.

iii. Surgical intervention is considered when the diverticulum diameter exceeds 30 mm.

iv. Surgical intervention is considered when the diameter of the descending aorta adjacent to the diverticulum exceeds 55mm.

A:-Only i, ii and iii

B:-Only i, ii and iv

C:-Only ii and iii

D:-All of the above

Correct Answer:- Option-D

Question83:-Match the vascular syndromes to the corresponding genetic abnormalities.

- | | |
|------------------------------------|------------|
| 1. Marfan syndrome | a. TGF BR1 |
| 2. Loey's Dietz syndrome | b. COL 3A1 |
| 3. Vascular Ehlers Danlos syndrome | c. FBN1 |
| 4. Cutis Laxa syndrome | d. EFEMP2 |

Which of the following combinations is correct ?

A:-1-b, 2-d, 3-c, 4-a

B:-

1-c, 2-a, 3-b, 4-d

C:-

1-c, 2-d, 3-b, 4-a

D:-1-b, 2-c, 3-a, 4-d

Correct Answer:- Option-B

Question84:-In which of the following conditions, the size threshold for prophylactic aortic root or ascending aortic resection is incorrect ?

A:-Degenerative aneurysm ≥ 5.5 cm

B:-Bicuspid aortic valve requiring aortic valve replacement ≥ 4.5 cm

C:-Marfan syndrome $\geq 4.5 - 5.0$ cm

D:-Turner syndrome - >4.0 cm per m^2

Correct Answer:- Option-D

Question85:-Which of the following statements is/are correct about intramural hematoma (IMH) of aorta ?

- i. IMH represents 10 to 20 % of acute aortic syndromes.
- ii. It may result from rupture of vasovasorum.
- iii. Type-b IMH is managed medically in vast majority with endovascular procedures performed only for complications.
- iv. Communication between aortic lumen and hematoma is usually demonstrated in CT aortogram.

A:-i, ii and iii

B:-i and ii

C:-i, ii, iii and iv

D:-i, ii and iv

Correct Answer:- Option-A

Question86:-Which among the following has the least association with peripheral artery disease ?

A:-C-reactive protein

B:-Hyperhomocysteinemia

C:-Insulin resistance

D:-Cigarette smoking

Correct Answer:- Option-B

Question87:-WIFI classification grading for peripheral artery disease is based on all of the following indices, except

A:-Ankle Brachial index

B:-Ankle Systolic pressure

C:-Ankle Diastolic pressure

D:-Toe pressure

Correct Answer:- Option-C

Question88:-All of the following are true regarding Vorapaxar, except

A:-TRA2P-TIMI 50 trial studied Vorapaxar in peripheral artery disease (PAD)

B:-It is a Protease activated receptor 1 inhibitor

C:-Acute limb ischemia incidence reduced by 42% when added to dual antiplatelets

D:-Greatest benefit was seen in patients with prior stroke in addition to PAD

Correct Answer:- Option-D

Question89:-All of the following are true for atheroembolism, except

A:-Dorsalis pedis/ankle pulses are typically absent

B:-Most notable clinical finding is blue-toe syndrome

C:-Associated with eosinophilia and eosinophiluria

D:-Biopsy shows needle-shaped clefts in small arteries

Correct Answer:- Option-A

Question90:-All of the following are true for Thrombo-Angiitis Obliterans (TAO), except

A:-Hyperbaric oxygen therapy may improve healing

B:-Intravenous iloprost is more effective than aspirin for rest pain

C:-Vascular reconstructive surgery is the definitive treatment

D:-Bosentan can be considered in refractory cases

Correct Answer:- Option-C

Question91:-Which of the following is/are recommended to achieve reduction in Low Density Lipoprotein (LDL) cholesterol ?

- i. Saturated fat should be more than 7% of energy intake.
- ii. Dietary cholesterol intake should be less than 200 mg/day.
- iii. Total dietary fat intake should be less than 30 to 35% of total calories.
- iv. Dietary fibre intake more than 14g per 1000 calories may be of benefit

A:-ii and iii

B:-

ii, iii and iv

C:-

i, ii and iv

D:-All of the above

Correct Answer:- Option-B

Question92:-Which of the following combinations is/are correct regarding apolipoprotein and lipoprotein in which they are predominantly seen ?

i. Apo B 48 : Chylomicrons

ii. Apo(a) : Lp(a)

iii. Apo B100 : LDL, VLDL

iv. Apo E : Chylomicron remnant, IDL

A:-

i, ii and iv

B:-

i, iii and iv

C:-

ii, iii and iv

D:-

i, ii, iii and iv

Correct Answer:- Option-D

Question93:-Which of the following combinations is/are correct regarding the effect of antidiabetic drugs on heart failure ?

i. Saxagliptin : Unfavourable

ii. Canagliflozin : Beneficial

iii. Sulfonylureas : Unfavourable

iv. Insulin : Neutral

A:-

Only i and ii

B:-

Only ii and iii

C:-Only i and iii

D:-

Only i, ii and iv

Correct Answer:- Option-D

Question94:-Which of the following combinations is/are correct regarding lipid lowering drugs and their mechanism of action ?

- i. Inclisiran-Long-acting synthetic SI RNA directed against PCSK9
- ii. Bempedoic acid-Inhibits ATP citrate lyase
- iii. Evinacumab-Inhibitor of PCSK9
- iv. Lomitapide-Microsomal triglyceride transfer protein inhibitor

A:-

i, ii and iii

B:-

i, ii and iv

C:-

ii, iii and iv

D:-

i, iii and iv

Correct Answer:- Option-B

Question95:-All of the following are categorised as lesions under WHO class IV maternal cardiovascular risk, except

A:-

Asymptomatic severe mitral stenosis

B:-

Asymptomatic severe aortic stenosis

C:-

Severe pulmonary artery hypertension

D:-

Previous peripartum cardiomyopathy with any residual left ventricular impairment

Correct Answer:- Option-B

Question96:-All of the following are included in classic Wells criteria to assess the clinical likelihood of pulmonary embolism, except

A:-

Deep vein thrombosis (DVT) symptoms or signs

B:-

An alternative diagnosis less likely than pulmonary embolism

C:-

Systolic BP < 90 mm Hg

D:-

Heart Rate > 100 bpm

Correct Answer:- Option-C

Question97:-All of the following are true regarding Factor V Leiden mutation except

A:-

Autosomal dominant and most common thrombophilia

B:-

Associated with first trimester abortion due to placental vein thrombosis

C:-

Rate of recurrent venous thromboembolism is higher than non-leiden patients

D:-

DVTs have a low embolization rate

Correct Answer:- Option-C

Question98:-Which of the following statements is/are true in pulmonary embolism ?

- i. The upper limit of normal for plasma D-dimer assay should be increased for patients older than 50 years to ten times the patient age.
- ii. Most common signs in ECG are sinus tachycardia and T inversion in leads V1-V4
- iii. 60/60sign in 2D echo is the combination of pulmonary acceleration time < 60 ms and tricuspid regurgitation jet gradient of > 60 mm Hg
- iv. McConnell sign-Akinesis or dyskinesis of RV apex with relative sparing of mid right ventricular free wall

A:-

i, ii and iii

B:-

i and ii

C:-

i, ii, iii and iv

D:-

i, ii and iv

Correct Answer:- Option-B

Question99:-

The predictors of prognostic risk in pulmonary embolism by simplified Pulmonary Embolism Severity Index (PESI) include, all of the following except

A:-

Age > 80 years

B:-

History of cancer

C:-

History of heart failure or chronic lung disease

D:-Presence of bilateral lower limb deep vein thrombosis

Correct Answer:- Option-D

Question100:-Which of the following statements on D-Dimer assay in acute pulmonary thromboembolism (PTE) is incorrect ?

A:-Although elevated plasma concentrations of D-dimers are sensitive for the diagnosis of PTE, they are not specific

B:-This test is generally useful for screening acutely ill hospitalized inpatients

C:-

A normal plasma D-dimer value usually rules out PTE in the absence of high clinical suspicion

D:-An elevated D-dimer is an independent correlate of increased mortality

Correct Answer:- Option-B