

1. CS. Tick the ECG sign of sinus bradycardia:

- a) ☐ PQ interval 0.22 sec
 - b) ☐ Irregular RR intervals
 - c) ☐ Atrial and ventricular frequency >70 b/min
 - d) ☐ QRS complex more than 0.14 mm/sec
 - e) ☐ Atrial and ventricular frequency < 60 b/min
-

2. CS. Tick the excepting ECG sign in sinus tachycardia:

- a) ☐ RR intervals regular
 - b) ☐ Atrial and ventricular frequency > 100 b/min
 - c) ☐ PQ interval 0.2 sec
 - d) ☐ QRS complex duration 0.1 sec
 - e) ☐ Presence of P waves before each QRST complex
-

3. CS. Tick the ECG sign of respiratory arrhythmia:

- a) ☐ QRS complex is more than 0.1 sec
 - b) ☐ Missing P wave before QRS
 - c) ☐ Present of "F" wave between the QRST complexes
 - d) ☐ Cyclical shortening intervals R - R in inspiration
 - e) ☐ Cyclical lengthening intervals R - R to inspiration missing
-

4. CS. Mention the clinical sign of paroxysmal supraventricular tachycardia:

- a) ☐ High heart rate
 - b) ☐ Tachycardia onset is sudden
 - c) ☐ Tachycardia onset is gradual
 - d) ☐ Vagal maneuvers stops tachycardia attack
 - e) ☐ Tachycardia attack stops sudden
-

5. CS. Tick the ECG sign in reciprocal atrioventricular tachycardia with acceding ways:

- a) ☐ PQ interval 0.2 mm sec
 - b) ☐ Negative P waves in DII, DIII, aVF and positive in aVR following QRS
 - c) ☐ Irregular RR interval
 - d) ☐ QRS duration > 0.14 sec.
 - e) ☐ Usually aberrant QRS complex
-

6. CS. Tick the ECG sign of paroxysmal ventricular tachycardia:

- a) ☐ Abnormal QRS complex, with secondary changes in ST, T
 - b) ☐ Negative P wave before QRS
 - c) ☐ Presence of delta wave
 - d) ☐ PQ interval <0.12 sec
 - e) ☐ Negative P waves after QRS complex
-

7. CS. Tick the ECG sign for atrial extrasystoles:

- a) ☐ "f" wave between RR intervals
 - b) ☐ PQ interval < 0.12 sec
 - c) ☐ Premature P wave before QRST complex
 - d) ☐ Full compensatory pause
 - e) ☐ Absence of P wave before QRST complex
-

8. CS. Tick the excepting ECG sign for ventricular extrasystoles:
- a) ☐ Normal PQ interval
 - b) ☐ ST segment and T wave are opposite to the main deflexion QRS complex
 - c) ☐ Full compensatory pause
 - d) ☐ Negative P wave after QRS complex
 - e) ☐ QRS duration > 0.12 sec
-

9. CS. Thick the excepting ECG signs for atrial flutter:
- a) ☐ Atrial frequency contractions 300 b / min
 - b) ☐ Propagation of atrial impulses to the ventricles in relation 2:1
 - c) ☐ QRS complex usually normal
 - d) ☐ "F" wave between where RR-looking like a saw tooth
 - e) ☐ Incomplete compensatory pause
-

10. CS. Choose the main method in treatment of instable hemodynamic ventricular tachycardia:
- a) ☐ Electric shock application 75-100 J
 - b) ☐ Intravenous Sol. Novocainamid
 - c) ☐ Intravenous Sol Digoxin
 - d) ☐ Electric shock application 50 J
 - e) ☐ Intramuscular Sol. Lidocaine
-

11. CM. Mention what includes the ECG classification of tachyarrhythmia
- a) ☐ Wide QRS complex tachyarrhythmia
 - b) ☐ Narrow QRS complex tachyarrhythmia
 - c) ☐ Normal PQ interval tachyarrhythmia
 - d) ☐ Lengthened PQ interval
 - e) ☐ With ST segment elevation tachyarrhythmia
-

12. CM. Thick the ECG signs of atrial fibrillation:
- a) ☐ Irregular RR intervals
 - b) ☐ "F" wave between RR-looking saw tooth
 - c) ☐ Absence of P-wave
 - d) ☐ "f" wave between RR intervals
 - e) ☐ PQ intervalle duration 0.14 sec
-

13. CM. Tick the most common causes of atrial fibrillation:
- a) ☐ Mitral stenosis
 - b) ☐ Thyrotoxicosis
 - c) ☐ Alcoholic cardiomyopathy
 - d) ☐ Mixedema
 - e) ☐ Atrial septal defect type "ostium secundum"
-

14. CM. Mention what includes atrial fibrillation classification:
- a) ☐ Acute atrial fibrillation
 - b) ☐ Chronic atrial fibrillation
 - c) ☐ Paroxysmal atrial fibrillation
 - d) ☐ Persistent atrial fibrillation
 - e) ☐ Relapsing atrial fibrillation
-

15. CM. Choose correct statements of "vagal" paroxysmal atrial fibrillation:

- a) ☐ is more frequently in women
 - b) ☐ Stand by is triggered
 - c) ☐ Is more common in men
 - d) ☐ It appears during emotional stress
 - e) ☐ It begin postprandial or during sleep
-

16. CM. Choose the correct statements about "adrenergic" paroxysmal atrial fibrillation:

- a) ☐ Occurs during exercise
 - b) ☐ Is caused by stressful situations
 - c) ☐ Mainly in the morning
 - d) ☐ Meets more frequently in women's
 - e) ☐ Stand by fires
-

17. CM. Tick the drugs that inhibit the impulse through the atrioventricular node:

- a) ☐ Digoxin
 - b) ☐ Propranolol
 - c) ☐ Amiodarone
 - d) ☐ Verapamil
 - e) ☐ Nifedipine
-

18. CM. Choose the medicines used to restore sinus rhythm in atrial fibrillation:

- a) ☐ Digoxin
 - b) ☐ Novocainamid
 - c) ☐ Amiodarone
 - d) ☐ Propafenone
 - e) ☐ Sotalol
-

19. CM. Mention the atrial fibrillation thromboembolic risk factors:

- a) ☐ Age > 60 years
 - b) ☐ Arterial hypertension
 - c) ☐ Diabetes mellitus
 - d) ☐ History of stroke
 - e) ☐ Overweight
-

20. CM. Mention the characteristic of ventricular flutter:

- a) ☐ syncope
 - b) ☐ "F" wave between RR-looking saw tooth
 - c) ☐ absence of peripheral pulse
 - d) ☐ presence of sinusoidal regular waves
 - e) ☐ heart rates 250 -300 per min
-

21. CM. Mention the characteristics of ventricular fibrillation:

- a) ☐ Delta waves on ECG
 - b) ☐ Lack of QRS complexes
 - c) ☐ Syncope
 - d) ☐ Presence of distorted, irregular, chaotic waves on ECG
 - e) ☐ Presence of "f" waves between QRS
-

- 22.** CM. Indicate the effective resuscitation measures in ventricular fibrillation and flutter:
- a) ☐ Blow in the chest in the first few seconds
 - b) ☐ Initial electrical cardioversion with 200 J
 - c) ☐ Electrical cardioversion with 320 - 400 J in unloading effect
 - d) ☐ Cardiac massage correctly done in the first minutes
 - e) ☐ Sol. Lidocaine intravenous
-

- 23.** CM. Indicate the characteristics of sinus tachycardia:
- a) ☐ Gradually heart rate increase
 - b) ☐ Normal physiological response to physical exertion
 - c) ☐ QRS complex is normal
 - d) ☐ PQ interval is more 0.20 sec.
 - e) ☐ The pace is accelerating in inspiration and reduced on expiration
-

- 24.** CM. Indicate the causes of sinus tachycardia:
- a) ☐ Vagus nerve hyper tonus
 - b) ☐ Alcohol abuse
 - c) ☐ Fever
 - d) ☐ Thyrotoxicosis
 - e) ☐ Cord pulmonale
-

- 25.** CM. Indicate the causes of junctional nonparoxysmic atrioventricular tachycardia:
- a) ☐ Cardiac glycosides poisoning
 - b) ☐ Inferior myocardial infarction
 - c) ☐ Hypokalemia
 - d) ☐ Heart surgery intervention
 - e) ☐ Hypocalcaemia
-

- 26.** CM. Indicate the causes of reciprocal junctional atrioventricular tachycardia:
- a) ☐ Atrial and ventricles depolarization is concomitant
 - b) ☐ Impulse circulating into the atrioventricular node
 - c) ☐ Anterograde ventricular activation of His - Purkinje system
 - d) ☐ Retrograde activation of the atria
 - e) ☐ Atria depolarization precedes ventricular depolarization
-

- 27.** CM. Indicate the treatment of atrioventricular reciprocal tachycardia:
- a) ☐ Application of vagal maneuvers
 - b) ☐ Face immersion in cold water with breath retention for 10-30 sec
 - c) ☐ Sol. Adenosine triphosphate intravenous
 - d) ☐ External electric shock with 200 J
 - e) ☐ Trans esophageal heart electric stimulation
-

- 28.** CM. Indicate the characteristics of paroxysmal ventricular tachycardia:
- a) ☐ Regular ventricular rhythm
 - b) ☐ Effectiveness of vagal maneuvers in treatment
 - c) ☐ Abnormal QRS complex with ST,T secondary changes
 - d) ☐ PQ interval prolongation
 - e) ☐ Presence of "f" wave on ECG
-

- 29.** CM. Choose the antiarrhythmic drugs recommended stopping ventricular tachycardia:
- a) ☐ Digoxin
 - b) ☐ Lidocaine
 - c) ☐ Amiodarone
 - d) ☐ Disopyramide
 - e) ☐ Novocainamid
-

- 30.** CM. Indicate the ECG characteristics of atrial extrasystoles:
- a) ☐ Normal QRS complex
 - b) ☐ Lack of P wave
 - c) ☐ Negative P wave after QRS complex
 - d) ☐ Incomplete compensatory pause
 - e) ☐ Premature P wave preceding QRS complex
-

- 31.** CM. Choose the signs of polymorphic premature heart beats:
- a) ☐ Varying coupling intervals
 - b) ☐ Extrasystoles in the same lead have different forms
 - c) ☐ Extrasystoles in the same lead have equal forms
 - d) ☐ Coupling intervals are equal
 - e) ☐ Different outbreaks extrasystoles
-

- 32.** CM. Indicate the ECG signs of ventricular extrasystoles:
- a) ☐ QRS complex pathological
 - b) ☐ Full compensatory pause
 - c) ☐ P-Q interval less than 0.12 sec
 - d) ☐ Negative P wave, succeeded QRS
 - e) ☐ Lack of P wave
-

- 33.** CM. Indicate the ECG signs of superior atrioventricular extrasystoles:
- a) ☐ PQ interval over 0.20 sec
 - b) ☐ Normal QRS complex
 - c) ☐ P wave negative in DII, DIII before the QRS complex
 - d) ☐ P wave negative in DII, DIII QRS after QRS
 - e) ☐ Incomplete compensatory pause
-

- 34.** CM. Tick the ECG manifestations of middle atrioventricular extrasystoles:
- a) ☐ QRS complex usually normal
 - b) ☐ P wave negative in DII, DIII subsequent to QRS
 - c) ☐ P wave is embedded in QRS complex
 - d) ☐ Full compensatory pause
 - e) ☐ P wave negative in DII, DIII precede QRS complex
-

- 35.** CM. Choose the ECG signs of atrioventricular extrasystoles:
- a) ☐ Lack of P wave
 - b) ☐ Normal QRS complex
 - c) ☐ Incomplete compensatory pause
 - d) ☐ Negative P wave after QRS complex
 - e) ☐ Wide QRS complex
-

36. CM. Mention what includes Lawn-Wolf classification of extrasystoles:

- a) ☐ Class I - solitary monomorphic extrasystoles -> 30 ex / h
 - b) ☐ Class II - solitary extrasystoles polymorph
 - c) ☐ Class III - polymorphic ventricular extrasystoles
 - d) ☐ Class IV - recurrent ventricular extrasystoles (double, triples, sage)
 - e) ☐ Class V - early ventricular type "R on T"
-

37. CM. Tick the I class of antiarrhythmic drugs:

- a) ☐ Lidocaine
 - b) ☐ Mexilitin
 - c) ☐ Quinidine
 - d) ☐ Novocainamid
 - e) ☐ Amiodarone
-

38. CM. Tick the II class of antiarrhythmic drugs:

- a) ☐ Amiodarone
 - b) ☐ Lidocaine
 - c) ☐ Metoprolol
 - d) ☐ Nebivolol
 - e) ☐ Carvedilol
-

39. CM. Tick the III class of antiarrhythmic drugs:

- a) ☐ Lidocaine
 - b) ☐ Sotalol
 - c) ☐ Quinidine
 - d) ☐ Novocainamid
 - e) ☐ Amiodarone
-

40. CS. Indicate what conductivity disorder cannot be diagnosed by ECG:

- a) ☐ Atrioventricular block I degree
 - b) ☐ Complete right bundle branch block of His
 - c) ☐ Sinoatrial block of I degree
 - d) ☐ Atrioventricular block III degree
 - e) ☐ Sinoatrial block II degree
-

41. CS. Choose the ECG sign of sinoatrial block II degree:

- a) ☐ Sinus pauses; no P wave
 - b) ☐ Periodical lack QRS complexes
 - c) ☐ Full compensatory pause after PQRS complex
 - d) ☐ Frequent atrial and ventricular contractions
 - e) ☐ PQ interval prolongation
-

42. CS. Indicate the conductivity disorder characterized by Wenckebach periods on ECG:

- a) ☐ II degree atrioventricular block, type II (Mobitz II)
 - b) ☐ II degree sinoatrial block, type I (Mobitz I)
 - c) ☐ Third degree atrioventricular block
 - d) ☐ Right bundle branch block of His
 - e) ☐ Left bundle branch block of His
-

43. CS. Indicate the main clinical feature of advanced sinoatrial and atrioventricular blocks II degree type II (Mobitz II):

- a) ☐ Palpitations
- b) ☐ Dyspnea on exertion
- c) ☐ Fatigabilité
- d) ☐ Syncope
- e) ☐ Retrosternal pain

44. CS. Point the ECG signs of atrioventricular block I degree:

- a) ☐ Prolonged QRS interval
- b) ☐ Negative P waves before QRST complex
- c) ☐ PQ or PR intervals more than 0.2 sec
- d) ☐ PQ intervals different
- e) ☐ Where Delta

45. CS. Mention the ECG signs of atrioventricular block II degree:

- a) ☐ Intermittent lack of PQRST complex
- b) ☐ Lack of P wave
- c) ☐ Regular lack QRS complexes
- d) ☐ Presence of "F" waves
- e) ☐ Presence of "f" waves

46. CS. Choose the definition of III degree atrioventricular block:

- a) ☐ None of atrial impulses propagate to the ventricles
- b) ☐ Gradual slowing of impulses propagation to the ventricles
- c) ☐ Organic lesion of His-Purkinje system
- d) ☐ Pausing of the electrical activity of sinus node
- e) ☐ Impulses are conducted retrograde from the ventricles to the atria

47. CS. Choose the ECG signs of III degree atrioventricular block:

- a) ☐ Atrial - ventricular contractions ratio is 3:1
- b) ☐ Independent atrial and ventricular contractions
- c) ☐ Sinus pause without P wave
- d) ☐ Irregular lack of PQRST complexes
- e) ☐ Regular QRST complexes lack

48. CS. Mention the ECG signs of complete right bundle branch block Hiss:

- a) ☐ Presence of large R wave, crocheted in III, AVF, V1, V2
- b) ☐ PQ interval prolongation
- c) ☐ PQ interval shortening
- d) ☐ R wide, crocheted in I, AVL, V5, V6
- e) ☐ S is larger in III, AVF, V1, V2

49. CS. Mention the ECG signs of complete left bundle branch block Hiss:

- a) ☐ presence of wide R wave, jagged in III, AVF, V1, V2
- b) ☐ PQ interval prolongation
- c) ☐ PQ interval shortening
- d) ☐ Wide, jagged R wave in I, AVL, V5, V6
- e) ☐ S range in I, AVL, V5, V6

50. CS. Mention the indication for cardioverter-defibrillator implantation:

- a) ☐ Ventricular fibrillation recurrences at varying intervals of time
 - b) ☐ Complete atrioventricular block
 - c) ☐ Atrial fibrillation
 - d) ☐ Atrial flutter
 - e) ☐ Complete sinoatrial block
-

51. CM. Indicate the causes of asistolia:

- a) ☐ Atrioventricular block III degree
 - b) ☐ Atrioventricular block I degree
 - c) ☐ Ectopic rhythm from the middle of atrioventricular junction
 - d) ☐ Complete sinoatrial block
 - e) ☐ Permanent atrial fibrillation
-

52. CM. Indicate the causes of abnormal automatism:

- a) ☐ Myocardial fibers extension
 - b) ☐ Electrolyte disbalance
 - c) ☐ Catecholamine influence
 - d) ☐ Myocardial infarction
 - e) ☐ Anemia
-

53. CM. Indicate the electrophysiological mechanisms of arrhythmias:

- a) ☐ Decreasing of normal automatism
 - b) ☐ Increasing of normal automatism
 - c) ☐ Presence of pathological automatism
 - d) ☐ Early post depolarization
 - e) ☐ Late post depolarization
-

54. CM. Choose the ECG characteristics of II degree sinoatrial block type II (Mobitz II):

- a) ☐ Regular PP intervals
 - b) ☐ Incomplete compensatory pause after PQRST complex
 - c) ☐ Sinusal pause, no P wave
 - d) ☐ Pause duration corresponding to 2, 3 or more PP normal intervals
 - e) ☐ Pause is preceded by progressive decrease in PP intervals
-

55. CM. Choose the signs of classic Morgan - Adams - Stocks syndrome:

- a) ☐ Hypertension
 - b) ☐ Sudden onset
 - c) ☐ Syncope with pronounced pale skin
 - d) ☐ Reactive hyperemia after attack
 - e) ☐ Intermittent character
-

56. CM. Indicate the correct statements of atrioventricular block I degree:

- a) ☐ Keeping all atrial impulses to the ventricles
- b) ☐ PQ or PR interval over 0.2 sec
- c) ☐ Is common in the elderly
- d) ☐ PQ or PR interval less than 0.12 sec.
- e) ☐ Gradual lengthening of the PQ interval

57. CM. Indicate the ECG signs of II degree atrioventricular block type I (Mobitz I):

- a) ☐ Progressive lengthening of PQ or PR interval
- b) ☐ Omission of ventricular contraction
- c) ☐ The presence of Wenckebach periods Samoilov
- d) ☐ Irregular RR intervals
- e) ☐ Regular RR intervals

58. CM. Indicate the ECG characteristic of atrioventricular block II degree, type II (Mobitz II):

- a) ☐ Wenckebach periods
- b) ☐ Irregular RR intervals
- c) ☐ Not all atrial impulses are propagated to the ventricles
- d) ☐ The ECG recorded absence of 1, 2, 3 ...QRS complex
- e) ☐ Organic involvement of conductivity heart system

59. CS. Indicate what with is combined atrial fibrillation in Frederic syndrome:

- a) ☐ Atrioventricular block II degree, type II
- b) ☐ Complete sinoatrial block
- c) ☐ Frequent atrial extrasystoles
- d) ☐ Frequent ventricular extrasystoles
- e) ☐ Complete atrioventricular block

60. CM. Mention the characteristics of III degree atrioventricular block located in the AV node:

- a) ☐ It is often congenital
- b) ☐ In most patients AV junctional rhythm is registered with the heart rate 40-60 b / min
- c) ☐ During exercise and stress the heart rates is accelerating up to 100 b / min
- d) ☐ Heart rates does not exceed 40 b / min
- e) ☐ It is almost always acquired

61. CM. Indicate the characteristics of III degree atrioventricular block in the Hiss - Purkinje system:

- a) ☐ It is often congenital
- b) ☐ Syncope states
- c) ☐ Heart rates are accelerating up to 100 b / min during exercise and stress
- d) ☐ The rate does not exceed 40 b / min
- e) ☐ It is almost always acquired

62. CM. Choose the rhythm disorders manifested with syncopal states:

- a) ☐ Ventriculaire fibrillation
- b) ☐ Atrial fibrillation
- c) ☐ Ventricular flutter
- d) ☐ Ventricular tachycardia
- e) ☐ Complete atrioventricular block

63. CM. Mention the ECG signs of complete left bundle branch block Hiss:

- a) ☐ QRS duration exceeding 0.12 sec.
- b) ☐ S-ventricular complex in III, AVF, V1, V2
- c) ☐ S-ventricular complex in I, AVL, V5, V6
- d) ☐ Ventricular complex type R in I, AVL, V5, V6

e) ☐ QRS duration from 0.10 to 0.12 sec.

64. CM. Indicate the ECG signs of incomplete right bundle branch block Hiss:

- a) ☐ Widening of QRS complexes over 0.12 sec
 - b) ☐ Ventricular complex in leads RSR type III, AVF, V1, V2
 - c) ☐ Absence and presence of Q waves in leads V5 wide S waves, V6
 - d) ☐ Ventricular rhythm
 - e) ☐ QRS duration from 0.10 to 0.12 sec
-

65. CM. Indicate the correct statements Wolff-Parkinson-White syndrome:

- a) ☐ The presence of a pathway directly linking accessories atrium of the ventricles
 - b) ☐ Atrial impulse propagated simultaneously towards node Hiss and f. Kent
 - c) ☐ Early ventricles depolarization
 - d) ☐ Presence of delta wave on ECG
 - e) ☐ PQ interval within 0.12 to 0.20 sec
-

66. CM. Indicate the characteristics of incomplete left bundle branch block Hiss:

- a) ☐ "R" type complex in I, AVL, V5, V6
 - b) ☐ Electric axis suddenly diverted to the left
 - c) ☐ S complex type III, AVF, V1, V2
 - d) ☐ QRS duration from 0.1 to 0.12 sec
 - e) ☐ Junctional rhythm
-

67. CM. Choose the ECG manifestation of Wolff-Parkinson-White syndrome:

- a) ☐ Presence of delta wave
 - b) ☐ RR intervals equal
 - c) ☐ Normal P wave and PQ interval less than 0.12 sec
 - d) ☐ PQ interval over 0.18 seconds
 - e) ☐ Progressive lengthening of the interval PQ
-

68. CM. Indicate the indications for implantation of permanent cardiostimulation:

- a) ☐ Complete atrioventricular block associated with symptomatic bradycardia
 - b) ☐ Frederick syndrome
 - c) ☐ Recurrent syncope associated with systolic intervals over 3 sec.
 - d) ☐ Persistent post infarction atrioventricular block II degree
 - e) ☐ Ventricular fibrillation
-

69. CM. Choose the indications for trans esophageal electro cardio stimulation:

- a) ☐ Atrial flutter
 - b) ☐ Paroxysmal AV reciprocal tachycardia
 - c) ☐ Ventriculaire fibrillation
 - d) ☐ Ventriculaire Flutter
 - e) ☐ Bifascicular block
-

70. CM. Specify conduction disorders that can be diagnosed by ECG:

- a) ☐ I-st degree atrioventricular block
- b) ☐ Complete right bundle branch block
- c) ☐ I-st degree sinoatrial block
- d) ☐ III-rd degree atrioventricular block

e) ☐ II-nd degree sinoatrial block

71. CM. Indicate the ECG signs of II degree sinoatrial block:

- a) ☐ Sinusal arrest periods without P waves
- b) ☐ Periodic lack of PQRS complexes
- c) ☐ Complete compensatory pause after PQRS complex
- d) ☐ Frequent atrial and ventricular contractions
- e) ☐ PQ interval prolongation

72. CM. Indicate the conduction disorders characterized by Wenckebach periods on ECG:

- a) ☐ II-nd degree sinoatrial block, type I (Mobitz I)
- b) ☐ II-nd degree sinoatrial block, type II (Mobitz II)
- c) ☐ III-rd degree atrioventricular block
- d) ☐ Complete right bundle branch block
- e) ☐ Left bundle branch block

73. CM. Indicate the clinical features of II-nd degree sinoatrial and atrioventricular type II (Mobitz II) block:

- a) ☐ Palpitations
- b) ☐ Exertional mixed dyspnea at moderate stress
- c) ☐ Presyncope
- d) ☐ Syncope
- e) ☐ Constrictive chest pain

74. CM. Point out ECG signs of the I-st degree AV block:

- a) ☐ Prolonged QRS interval
- b) ☐ Negative P waves before QRS complexes
- c) ☐ PQ or PR intervals more than 0,2 sec.
- d) ☐ Equal PQ intervals
- e) ☐ Delta waves

75. CM. Mention the ECG sign of II-nd degree AV block:

- a) ☐ Recurrent lack of QRS complex
- b) ☐ Absence of P wave
- c) ☐ Solitary P wave without QRS complex
- d) ☐ "f" waves
- e) ☐ "F" waves

76. CM. Indicate the ECG signs of the III-rd degree atrioventricular block:

- a) ☐ None of atrial impulses pass to ventricles
- b) ☐ Independent atrial and ventricular contractions
- c) ☐ Organic lesion of sinoatrial node
- d) ☐ Temporary stop of the electrical activity of the sinus node
- e) ☐ Impulses are conducted retrograde from ventricles to the atria

77. CM. Mention the ECG sign of III-rd degree AV block:

- a) ☐ independent atrial and ventricular depolarization
- b) ☐ Morgan - Adams - Stokes attack
- c) ☐ Syncope

- d) ☐ Periodical lack of PQRS complexes
 - e) ☐ Periodical lack of QRST complexes
-

78. CS. Indicate what disease is infective endocarditis:

- a) ☐ Degenerative
 - b) ☐ Destructive
 - c) ☐ Infectious
 - d) ☐ Congenital
 - e) ☐ Acquired
-

79. CS. Mention what structure is less involved in infective endocarditis:

- a) ☐ Mitral valve
 - b) ☐ Aortic valve
 - c) ☐ Tricuspid valve
 - d) ☐ Pulmonary artery valve
 - e) ☐ Eustache valve
-

80. CS. Indicate the most common infection in intravenous drug users and prosthetic valves infectious endocarditis:

- a) ☐ Streptococcus viridans
 - b) ☐ Streptococcus β hémolytique
 - c) ☐ Staphylococcus aureus
 - d) ☐ Staphylococcus epidermal
 - e) ☐ Enterococcus fecalis
-

81. CS. Mention who the first described infectious endocarditis:

- a) ☐ Libman E.
 - b) ☐ Osler W.
 - c) ☐ Schottmuller H.
 - d) ☐ Thayer's W.
 - e) ☐ Jaccoud S.
-

82. CS. Choose the avoided medication in infectious endocarditis treatment:

- a) ☐ Antibiotics
 - b) ☐ Antifungal
 - c) ☐ Glycosides
 - d) ☐ Anticoagulants
 - e) ☐ β -blockers
-

83. CS. Indicate the method of treatment with Amoxicillin in infectious endocarditis prevention:

- a) ☐ 0,5 g - 2 hours before dental procedure
 - b) ☐ 0,5g - after the dental procedure
 - c) ☐ 2 g - 30 min before procedure
 - d) ☐ 1 g -2 hours before dental procedure
 - e) ☐ 0,5 g in 4 divided doses
-

84. CS. Choose the recommended drug in methicillin-resistant streptococcal endocarditis:

- a) ☐ Penicillin G
- b) ☐ Ceftriaxone

- c) ☐ Vancomycin
 - d) ☐ Gentamicin is.
 - e) ☐ Amoxicillin
-

85. CS. Indicate the most common and serious complication of infectious endocarditis:

- a) ☐ Embolic events
 - b) ☐ Heart failure "Osler" type
 - c) ☐ Glomerulonephritis
 - d) ☐ Encephalitis
 - e) ☐ Toxic hepatitis
-

86. CS. Indicate the most informative laboratory test in infective endocarditis:

- a) ☐ Troponin
 - b) ☐ Urea
 - c) ☐ C-reactive protein
 - d) ☐ Blood culture
 - e) ☐ Urine culture
-

87. CM. Mention the localization of vegetation's in infective endocarditis:

- a) ☐ Native valves
 - b) ☐ Eustache valve
 - c) ☐ Ileocecal valve
 - d) ☐ Prosthetic valves
 - e) ☐ Ventricular septal defect
-

88. CM. Indicate the major diagnostic criteria of infective endocarditis:

- a) ☐ Fever ≥ 38 C
 - b) ☐ Fever ≤ 38 C
 - c) ☐ Positive blood culture in three peripheral veins
 - d) ☐ Positive blood cultures from a single sample
 - e) ☐ The presence of vegetation on echocardiography
-

89. CM. Choose the main clinical manifestations of infectious endocarditis:

- a) ☐ Diarrhea
 - b) ☐ Vomiting
 - c) ☐ Chills
 - d) ☐ Sweating
 - e) ☐ Fever
-

90. CM. Indicate the most common complications of right heart endocarditis:

- a) ☐ Septic pneumonia
 - b) ☐ Destructive multifocal pneumonia
 - c) ☐ Cerebral embolism
 - d) ☐ Coronary embolism
 - e) ☐ Pulmonar abscess
-

91. CM. Thick the embolic complications of left heart endocarditis:

- a) ☐ Renal emboli
- b) ☐ Cerebral embolism

- c) ☐ Splenic embolism
 - d) ☐ Cardiac emboli
 - e) ☐ Thromboembolism
-

92. CM. Indicate the absolute indications for in infectious endocarditis prevention:

- a) ☐ Mitral valve prolapse
 - b) ☐ Ischemic Heart Diseases
 - c) ☐ Hypertrophic cardiomyopathy
 - d) ☐ Prosthetic valves
 - e) ☐ Infective endocarditis in antecedence
-

93. CM. Indicate the criteria of activity in infective endocarditis:

- a) ☐ Two months from onset
 - b) ☐ Persistent fever regardless of disease duration
 - c) ☐ Endocardial inflammation by morphological examination
 - d) ☐ Positive blood cultures
 - e) ☐ Pathogenic detection in nasopharynx smears
-

94. CM. Indicate the correct statements of early prosthetic endocarditis:

- a) ☐ Staphylococcus and streptococcus are predominant infectious agents'
 - b) ☐ Embolic complications are the cause high rate mortality
 - c) ☐ Develops in the first 12 months after valve replacement
 - d) ☐ Develops in the first 24 months after valve replacement
 - e) ☐ Also is called nosocomial endocarditis
-

95. CM. Mention what included the treatment of heart failure in endocarditis:

- a) ☐ Surgical correction of the valvulopathy
 - b) ☐ Glycosides
 - c) ☐ Diuretics
 - d) ☐ Glucocorticosteroids
 - e) ☐ Enzyme Converting Inhibitors
-

96. CM. Indicate the indications for surgical treatment in infectious endocarditis:

- a) ☐ Fungal endocarditis
 - b) ☐ Streptococcal endocarditis
 - c) ☐ Myocardial abscess
 - d) ☐ Glomerulonephritis
 - e) ☐ Resistant to antibacterial therapy
-

97. CM. Indicate the correct statements about infectious endocarditis:

- a) ☐ Infectious disease
 - b) ☐ Vegetation lesions of native valves
 - c) ☐ Dehiscence of prosthesis
 - d) ☐ Positive blood cultures
 - e) ☐ Positive smear from nasopharynx
-

98. CM. Indicate what involves infectious endocarditis:

- a) ☐ Native valves
- b) ☐ Mechanical prosthetic valves

- c) ☐ Biological prosthetic valves
 - d) ☐ Intact valves
 - e) ☐ Ileocecal valves
-

99. CS. Indicate the predominant infectious agent of prosthetic valves infectious endocarditis:

- a) ☐ Streptococcus viridans
 - b) ☐ Streptococcus bovis
 - c) ☐ Enterococcus faecalis
 - d) ☐ Staphylococcus epidermidis
 - e) ☐ Staphylococcus aureus
-

100. CS. Choose the predominant infectious agent of intravenous drug user's infectious endocarditis:

- a) ☐ Staphylococcus epidermidis
 - b) ☐ Staphylococcus aureus
 - c) ☐ Streptococcus viridans
 - d) ☐ Streptococcus bovis
 - e) ☐ Enterococcus faecalis
-

101. CS. Indicate the predominant infectious agent in infectious endocarditis in insufficient dental hygiene:

- a) ☐ Streptococcus viridans
 - b) ☐ Streptococcus bovis
 - c) ☐ Enterococcus faecalis
 - d) ☐ Staphylococcus epidermidis
 - e) ☐ Staphylococcus aureus
-

102. CM. Indicate who have dealt with research in the field of infectious endocarditis:

- a) ☐ Libman E.
 - b) ☐ Osler W.
 - c) ☐ Schottmuller H.
 - d) ☐ Nicolaev L.
 - e) ☐ Socoteanu V.
-

103. CM. Indicate the drugs in treatment of infectious endocarditis:

- a) ☐ Antibiotics
 - b) ☐ Antifungal
 - c) ☐ Cardiac glycosides
 - d) ☐ Anticoagulants
 - e) ☐ Beta blockers
-

104. CS. Choose the dose and administration of Daptomycin in patients with infectious endocarditis caused by Staphylococcus aureus:

- a) ☐ 0,5 g per day intravenous infusion
 - b) ☐ 1g per day intravenous bolus
 - c) ☐ 3 g per day orally
 - d) ☐ 1 g per day orally
 - e) ☐ 0,5 g per day divided in 4 doses intramuscularly
-

105. CS. Indicate the dose of Vancomycin in patients with infectious endocarditis caused by Staphylococcus methicillin resistant:

- a) ☐ 0,5 g per day intravenous infusion
 - b) ☐ 1 g per day intravenous infusion
 - c) ☐ 2 g per day intravenous infusion in 2 doses
 - d) ☐ 0,5 g per day intravenous bolus
 - e) ☐ 1 g per day intravenous bolus
-

106. CM. Choose the drugs for treatment of methicillin resistant Staphylococcal infectious endocarditis:

- a) ☐ Penicillin G
 - b) ☐ Daptomycin
 - c) ☐ Vancomycin
 - d) ☐ Gentamicin
 - e) ☐ Amoxicillin
-

107. CM. Indicate the complications of infectious endocarditis:

- a) ☐ Glomerulonephritis
 - b) ☐ Embolism
 - c) ☐ Heart failure
 - d) ☐ Torticollis
 - e) ☐ Toxic hepatitis
-

108. CM. Indicate the most informative investigations in diagnosis of infectious endocarditis:

- a) ☐ Echocardiography
 - b) ☐ Electrocardiography
 - c) ☐ C-reactive protein
 - d) ☐ Blood culture
 - e) ☐ Uroculture
-

109. CS. Choose the incorrect location of microbial infectious endocarditis in graft:

- a) ☐ Native valves
 - b) ☐ Eustachian valve
 - c) ☐ Ileocecal valve
 - d) ☐ Valvular prostheses
 - e) ☐ Intact valves
-

110. CM. Choose the major criteria for the diagnosis of infective endocarditis are:

- a) ☐ Fever $\geq 38^{\circ}\text{C}$
 - b) ☐ Myocardial abscess on echocardiography
 - c) ☐ Positive blood culture in three peripheral veins
 - d) ☐ Dehiscence of prosthesis at echocardiography
 - e) ☐ The presence of vegetation on echocardiography
-

111. CS. Indicate the location of emboli in right heart infectious endocarditis:

- a) ☐ Pulmonary
- b) ☐ Coronary
- c) ☐ Cerebral
- d) ☐ Mesenteries

e) ☐ Splenic

112. CS. Choose the incorrect complications for left heart infectious endocarditis:

- a) ☐ Renal embolisms
 - b) ☐ Cerebral embolisms
 - c) ☐ Splenic embolisms
 - d) ☐ Coronary embolisms
 - e) ☐ Pulmonary embolisms
-

113. CM. Choose the patients for infectious endocarditis prophylaxis:

- a) ☐ Mitral valve prolapse
 - b) ☐ Ischemic heart disease
 - c) ☐ Hypertrophic cardiomyopathies
 - d) ☐ Valvular prostheses
 - e) ☐ Infectious endocarditis in the past
-

114. CM. Select the criteria of activity in infectious endocarditis:

- a) ☐ First two months from onset
 - b) ☐ Persistent fever
 - c) ☐ Endocardial inflammation by morphological examination
 - d) ☐ Positive blood cultures
 - e) ☐ Detection of the pathogen through the smear from nasopharynx
-

115. CM. Indicate the correct statements for early prosthetic infectious endocarditis:

- a) ☐ Staphylococcus and streptococcus etiology
 - b) ☐ High risk of embolic complications and death
 - c) ☐ Develops in the first 6 months after prosthesis
 - d) ☐ It is communitarian infectious endocarditis
 - e) ☐ It is nosocomial endocarditis
-

116. CM. Select the methods of treatment of heart failure in infectious endocarditis:

- a) ☐ Surgical correction of valvulopathy
 - b) ☐ Administration of cardiac glycosides
 - c) ☐ Administration of diuretics
 - d) ☐ Administration of steroids
 - e) ☐ Administration of vasodilators
-

117. CM. Select the indication for surgical treatment in infectious endocarditis:

- a) ☐ Fungal endocarditis
 - b) ☐ Streptococcal endocarditis
 - c) ☐ Infectious endocarditis complicated with myocardial abscess
 - d) ☐ Infectious endocarditis complicated with glomerulonephritis
 - e) ☐ Resistance to antibacterial treatment
-

118. CM. Select the minor criteria for diagnosis of infectious endocarditis:

- a) ☐ Fever $\geq 38^{\circ}\text{C}$
- b) ☐ Positive blood culture in one sample
- c) ☐ Dehiscence of prosthesis at echocardiography
- d) ☐ Suspicion of vegetation on echocardiography

e) ☐ Predisposing cardiac factors

119. CM. Select the minor DUKE criteria for diagnosis in infectious endocarditis:

- a) ☐ Fever $\geq 38^{\circ}\text{C}$
 - b) ☐ Janeway lesions
 - c) ☐ Positive blood culture in three samples
 - d) ☐ Osler nodules
 - e) ☐ Vegetation on echocardiography
-

120. CM. Select the minor DUKE criteria for diagnosis infectious endocarditis:

- a) ☐ Fever $\geq 38^{\circ}\text{C}$
 - b) ☐ Positive rheumatoid factor
 - c) ☐ Positive blood culture in three samples
 - d) ☐ Roth spots
 - e) ☐ Vegetation on echocardiography
-

121. CM. Indicate where located microbial graft in infectious endocarditis:

- a) ☐ Native valves
 - b) ☐ Valvular cordages
 - c) ☐ Carotid arteries
 - d) ☐ Ascending aorta
 - e) ☐ Femoral arteries
-

122. CS. Choose the correct statement about late prosthetic infectious endocarditis:

- a) ☐ Predominance of staphylococcus etiology
 - b) ☐ Embolic complications are a high percentage and cause death
 - c) ☐ Develops in the first 6 months after prosthesis
 - d) ☐ It is communitarian infectious endocarditis
 - e) ☐ It is nosocomial infectious endocarditis
-

123. CM. Select the correct statements for the late prosthetic infectious endocarditis:

- a) ☐ Predominance of staphylococci etiology
 - b) ☐ Embolic complications are a high percentage and cause death
 - c) ☐ Develops in the first year after surgery
 - d) ☐ It is communitarian infectious endocarditis
 - e) ☐ It is nosocomial endocarditis
-

124. CM. Select the new forms of infectious endocarditis:

- a) ☐ Infectious endocarditis in cardiac devices
 - b) ☐ Infectious endocarditis in the adolescence
 - c) ☐ Infectious endocarditis in the elderly
 - d) ☐ Infectious endocarditis of the intravenous drug users
 - e) ☐ Infectious endocarditis of addicts
-

125. CS. Select the incorrect new form of infectious endocarditis:

- a) ☐ Intracardiac devices of infectious endocarditis
- b) ☐ Infectious endocarditis in the adolescence
- c) ☐ Infectious endocarditis in the elderly
- d) ☐ Infectious endocarditis of the intravenous drug users

e) ☐ Infectious endocarditis in patients on hemodialysis

126. CM. Select the predisposing factors for developing of infectious endocarditis:

- a) ☐ Congenital heart diseases
 - b) ☐ Degenerative heart diseases
 - c) ☐ Hypertrophic heart diseases
 - d) ☐ Hypertension
 - e) ☐ Myocardial infarction
-

127. CM. Select the cardiac predisposing factors for developing of infectious endocarditis:

- a) ☐ Bicuspid aortic valve
 - b) ☐ Mitral stenosis
 - c) ☐ Ventricular septal defect
 - d) ☐ Hypertension
 - e) ☐ Mitral valve prolapse
-

128. CS. Select the most common predisposing factor for the development of infectious endocarditis in Republic of Moldova:

- a) ☐ Intact valves
 - b) ☐ Rheumatic valvulopathy
 - c) ☐ Myocarditis
 - d) ☐ Hypertension
 - e) ☐ Hypertrophic heart diseases
-

129. CS. Indicate the predisposing factor for the development of infectious endocarditis of right heart:

- a) ☐ Dental extractions
 - b) ☐ Viral hepatitis
 - c) ☐ Hypertrophic heart diseases
 - d) ☐ Intravenous drug use
 - e) ☐ Rheumatic heart disease
-

130. CM. Select the morbid circumstances (the gateway of infection) in infectious endocarditis:

- a) ☐ Pneumonia
 - b) ☐ Dental extractions
 - c) ☐ Hemodialysis
 - d) ☐ Poor dental hygiene
 - e) ☐ Elderly
-

131. CS. Indicate the most frequent gateway of infectious endocarditis in right heart:

- a) ☐ Respiratory infections
 - b) ☐ Dental extractions
 - c) ☐ Intravenous drug use
 - d) ☐ Poor dental hygiene
 - e) ☐ Elderly
-

132. CM. Choose the most common comorbidities in infectious endocarditis in Republic of Moldova:

- a) ☐ Liver cirrhosis

- b) ☐ Hepatitis
 - c) ☐ Diabetes
 - d) ☐ AIDS
 - e) ☐ Lues
-

133. CS. Select the duration of antimicrobial therapy in patients with streptococcal infectious endocarditis:

- a) ☐ 1 week
 - b) ☐ 2 weeks
 - c) ☐ 3 weeks
 - d) ☐ 4 weeks
 - e) ☐ 6 weeks
-

134. CS. Choose the duration of antimicrobial therapy in prosthetic infectious endocarditis staphylococcal etiology?

- a) ☐ 1 week
 - b) ☐ 4 weeks
 - c) ☐ 2 weeks
 - d) ☐ 8 weeks
 - e) ☐ 10 weeks
-

135. CM. Select the criteria of recovery in infectious endocarditis:

- a) ☐ Eradication of infection
 - b) ☐ Normal body temperature
 - c) ☐ Normal ESR and negative blood cultures within 1 year after treatment
 - d) ☐ Normal ESR and negative blood cultures within 1 month after treatment
 - e) ☐ Normal ESR and negative blood cultures within 6 months after treatment
-

136. CS. Marks the most used laboratory investigation for diagnosis of rheumatic heart diseases:

- a) ☐ Electrocardiography
 - b) ☐ Echocardiography
 - c) ☐ Phonocardiography
 - d) ☐ Cardiac CT
 - e) ☐ MRI of the heart
-

137. CS. Choose the no characteristic complication of mitral regurgitation:

- a) ☐ Atrial fibrillation
 - b) ☐ Endocarditis
 - c) ☐ Systemic embolism
 - d) ☐ Stomach bleeding
 - e) ☐ Cardiac asthma
-

138. CS. Select the drugs dont recomanded in mitral regurgitation:

- a) ☐ ACE inhibitors
 - b) ☐ Beta blockers
 - c) ☐ Diuretics
 - d) ☐ Cardiac glycosides
 - e) ☐ Alfa mimetic drugs
-

139. CS. Marks the most common rhythm disorder in mitral stenosis:

- a) ☐ Sinus bradycardia
 - b) ☐ Ventricular extrasystoles
 - c) ☐ Atrial fibrillation
 - d) ☐ Ventricular fibrillation
 - e) ☐ Atrioventricular blocks
-

140. CS. Tick the cause of angina attacks in mitral stenosis:

- a) ☐ Increased blood flow to the heart
 - b) ☐ Sudden increase in blood in the capillaries
 - c) ☐ Congestions in small circuit
 - d) ☐ Left coronary artery compression by increased left atrium
 - e) ☐ Right coronary artery compression by increased right atrium
-

141. CS. Indicate the normal surface of aortic orifice:

- a) ☐ 2,5 - 3,0 cm²
 - b) ☐ 2,0 - 2,5 cm²
 - c) ☐ 3,5 - 4,0 cm²
 - d) ☐ 1,5 - 2,0 cm²
 - e) ☐ 3,0 - 4,0 cm²
-

142. CS. Choose wich valvulopathy cause severe left ventricular concentric hypertrophy:

- a) ☐ Mitral stenosis
 - b) ☐ Aortic stenosis
 - c) ☐ Mitral valve regurgitation
 - d) ☐ Aortic valve regurgitation
 - e) ☐ Pulmonary artery regurgitation
-

143. CS. Mention wich valvulopathy can reach values the diastolic blood pressure to 40-10 mmHg.

- a) ☐ Aortic stenosis.
 - b) ☐ Mitral stenosis
 - c) ☐ Pulmonary artery stenosis
 - d) ☐ Mitral valve regurgitation
 - e) ☐ Aortic valve regurgitation
-

144. CS. Indicate the normal value of heart ejection fraction:

- a) ☐ ≥ 50 %
 - b) ☐ 80-100%
 - c) ☐ 90-95%
 - d) ☐ 40-60%
 - e) ☐ 20-30%
-

145. CS. Choose the normal size of the right atrium diameter of the heart:

- a) ☐ 20-40 mm
- b) ☐ 15 - 20 mm
- c) ☐ 40-50 mm
- d) ☐ 10 - 20 mm
- e) ☐ 50-60 mm

146. CS. Choose the normal size of the left atrium diameter of the heart:

- a) ☐ 10 - 20 mm
 - b) ☐ 15- 20 mm
 - c) ☐ 20-40 mm
 - d) ☐ 40-50 mm
 - e) ☐ 50-60 mm
-

147. CM. Indicate the mitral regurgitation causes:

- a) ☐ Mitral valve calcification and fibrosis
 - b) ☐ Rupture of mitral cusp
 - c) ☐ Cordage rupture
 - d) ☐ Papillary muscle rupture
 - e) ☐ Decrease of mitral orifice surface
-

148. CM. Select the pathological mechanisms in mitral valvular regurgitation:

- a) ☐ Incomplete closure of the mitral cusps
 - b) ☐ Decrease of mitral orifice surface
 - c) ☐ Thickening and shortening of chords
 - d) ☐ Cusps fusion
 - e) ☐ Inflammatory and sclerotic changes in mitral ring
-

149. CM. Indicate the changes on heart auscultation in mitral regurgitation:

- a) ☐ Sound 1 splitting on apex
 - b) ☐ Sound 1 is diminished
 - c) ☐ Systolic murmur at the apex
 - d) ☐ Diastolic murmur at the apex
 - e) ☐ Diastolic murmur at aorta
-

150. CM. Indicate the ECG characteristics of severe mitral regurgitation:

- a) ☐ Left atrium hypertrophy
 - b) ☐ Left deviation of the electric axes of heart
 - c) ☐ Left ventricle hypertrophie
 - d) ☐ Atrial fibrillation
 - e) ☐ Right atrium hypertrophy
-

151. CM. Indicate the clinical features of mitral regurgitation:

- a) ☐ Inspiratory dyspnea on exertion
 - b) ☐ Palpitations
 - c) ☐ Cardiac asthma attacks
 - d) ☐ Syncope
 - e) ☐ Retrosternal pain on exercise
-

152. CM. Choose the pathological changes in mitral stenosis:

- a) ☐ Incomplete closure of deformed mitral cusps
- b) ☐ Commissural fusion
- c) ☐ Thickening and shortening of chords
- d) ☐ Cuspal fusion
- e) ☐ Inflammatory and sclerotic changes of mitral ring

153. CM. Indicate the changes to heart auscultation for the mitral stenosis:

- a) ☐ Sound 1 is accentuated on apex
 - b) ☐ Sound 1 is diminished on apex
 - c) ☐ Systolic murmur on apex
 - d) ☐ Diastolic murmur on apex
 - e) ☐ Sound 2 is splitting on apex
-

154. CM. Choose the ECG signs of mitral stenosis:

- a) ☐ Left atrium hypertrophy
 - b) ☐ Deviation to the left of electrical axis
 - c) ☐ Right ventricle hypertrophy
 - d) ☐ Atrial fibrillation
 - e) ☐ Left ventricle hypertrophy
-

155. CM. Indicate the clinical features in mitral stenosis:

- a) ☐ Inspiratory dyspnea on exertion
 - b) ☐ Expiratory dyspnea at rest
 - c) ☐ Cardiac asthma attacks
 - d) ☐ Syncope
 - e) ☐ Retrosternal pain
-

156. CM. Choose the correct statements in severe mitral stenosis:

- a) ☐ Mitral orifice surface is less than 1.5 cm
 - b) ☐ Mitral orifice surface is less than 1,0 cm
 - c) ☐ Mitral orifice surface is less than 2,0 cm
 - d) ☐ The average pressure in left atrium is above 30 mmHg
 - e) ☐ Average pressure in left atrium is 20 mmHg
-

157. CS. Thick the most common cardiomyopathy:

- a) ☐ Arrhythmogenic
 - b) ☐ Dilated
 - c) ☐ Hypertrophic
 - d) ☐ Restrictive
 - e) ☐ Toxic
-

158. CS. Choose what is mostly involved in dilated cardiomyopathy:

- a) ☐ Systolic function
 - b) ☐ Diastole function
 - c) ☐ Blood pressure
 - d) ☐ Pulse
 - e) ☐ Peripheral resistance
-

159. CS. Select specific values of ejection fraction in dilated cardiomyopathy:

- a) ☐ 70%
- b) ☐ 60%
- c) ☐ 50%
- d) ☐ 100%
- e) ☐ 25-39%

160. CS. Indicate the characteristic changes in dilated cardiomyopathy on echocardiography:

- a) ☐ Dilation of all cardiac chambers
 - b) ☐ Isolated left ventricular dilation
 - c) ☐ Increase ejection fraction
 - d) ☐ Isolated right ventricular dilatation
 - e) ☐ Interventricular septum hypertrophy
-

161. CS. Choose what is mostly involved in hypertrophic cardiomyopathy:

- a) ☐ Systolic function
 - b) ☐ Diastolic function
 - c) ☐ Blood pressure
 - d) ☐ Pulse
 - e) ☐ Peripheral resistance
-

162. CS. Indicate the characteristic changes in hypertrophic cardiomyopathy on echocardiography:

- a) ☐ Dilatation of all cardiac chambers
 - b) ☐ Left atrial dilation
 - c) ☐ Increase of ejection fraction
 - d) ☐ Isolated right ventricular dilatation
 - e) ☐ Interventricular septum hypertrophy
-

163. CS. Indicate the morphological changes in restrictive cardiomyopathy:

- a) ☐ Diffuse, marked thickening of endocardial and parietal left ventricle, sometimes-right ventricle
 - b) ☐ Left ventricle hypertrophy
 - c) ☐ Cardiomegaly
 - d) ☐ Efilation (thin) of right ventricle walls
 - e) ☐ Spongy myocardium
-

164. CS. Indicate the morphological changes in arrhythmogenic cardiomyopathy:

- a) ☐ Diffuse, marked thickening of endocardial and parietal left ventricle, sometimes - right ventricle
 - b) ☐ Left ventricle hypertrophy
 - c) ☐ Cardiomegaly
 - d) ☐ Efilation (thin) of right ventricle walls
 - e) ☐ Spongy myocardium
-

165. CS. Select the cardiomyopathy with favorable prognosis:

- a) ☐ Hypertrophic cardiomyopathy
 - b) ☐ Alcoholic cardiomyopathy
 - c) ☐ Dilated cardiomyopathy
 - d) ☐ Restrictive cardiomyopathy
 - e) ☐ Arrhythmogenic cardiomyopathy
-

166. CM. Indicate hemodynamic changes that occurred in dilated cardiomyopathy:

- a) ☐ Decrease of left ventricular ejection fraction
- b) ☐ Systolic flow reduction
- c) ☐ Increase of heart chamber volumes

- d) ☐ Increase of intra cavitory pressure
 - e) ☐ Increase of ejection fraction
-

167. CM. Choose the methods recommended in patients with cardiomyopathy:

- a) ☐ Myocardial biopsy
 - b) ☐ Echocardiography
 - c) ☐ Phonocardiography
 - d) ☐ Electrocardiography
 - e) ☐ ECG monitoring
-

168. CM. Select the medications used in dilated cardiomyopathy:

- a) ☐ Diuretics
 - b) ☐ ACE inhibitors
 - c) ☐ Antiarrhythmic
 - d) ☐ Anticoagulants
 - e) ☐ Antipyretic
-

169. CM. Thick the forms of hypertrophic cardiomyopathy:

- a) ☐ Obstructive
 - b) ☐ No obstructive
 - c) ☐ Apical
 - d) ☐ Restrictive
 - e) ☐ Dilated
-

170. CM. Thick the clinical features in hypertrophic cardiomyopathy with outflow tract obstruction:

- a) ☐ Inspiratory dyspnea
 - b) ☐ Exercise independent constrictive retrosternal pain
 - c) ☐ Syncope
 - d) ☐ Heart palpitations
 - e) ☐ Anasarca
-

171. CM. Select ECG changes in dilated cardiomyopathy:

- a) ☐ Left ventricular hypertrophy
 - b) ☐ Complete left bundle brunch block of His
 - c) ☐ Atrial fibrillation
 - d) ☐ Pathological Q-waves
 - e) ☐ Low QRS voltage
-

172. CM. Select characteristic ECG changes in hypertrophic cardiomyopathy:

- a) ☐ Left ventricular hypertrophy
 - b) ☐ Increased QRS voltage
 - c) ☐ Atrial fibrillation
 - d) ☐ Pathological Q-waves in lower-side leads
 - e) ☐ Low QRS voltage
-

173. CM. Indicate the incorrect treatment of patients with obstructive hypertrophic cardiomyopathy:

- a) ☐ Cardiac glycosides

- b) ☐ Beta blockers
 - c) ☐ Nitrates
 - d) ☐ Diuretics
 - e) ☐ Antiarrhythmics
-

174. CM. Thick ECG changes in dilated cardiomyopathy:

- a) ☐ Left ventricular hypertrophy
 - b) ☐ Complete left bundle brunch block of His
 - c) ☐ Atrial fibrillation
 - d) ☐ Pathological Q waves
 - e) ☐ Low QRS voltage
-

175. CM. Select surgical methods used in significant obstructive hypertrophic cardiomyopathy:

- a) ☐ Partial myomectomies
 - b) ☐ Septal alcohol ablation
 - c) ☐ First septal embolization
 - d) ☐ Cardio-verter-defibrillator implantation
 - e) ☐ Total myomectomies
-

176. CM. Indicate the ECG changes in dilated cardiomyopathy:

- a) ☐ Left ventricular hypertrophy
 - b) ☐ Complete left bundle brunch block of His
 - c) ☐ Atrial fibrillation
 - d) ☐ Pathological Q-waves
 - e) ☐ Low QRS voltage
-

177. CM. Select the diseases that can develop restrictive cardiomyopathy:

- a) ☐ Endomyocardial fibrosis, eosinophilia (Löffler's syndrome)
 - b) ☐ Cardiac amyloidosis
 - c) ☐ Systemic lupus erythematosus
 - d) ☐ Hemochromatosis
 - e) ☐ Cardiac lesions by irradiation
-

178. CM. Indicate the main causes of death in patients with cardiomyopathy:

- a) ☐ Atrial fibrillation
 - b) ☐ Ventriculaire fibrillation
 - c) ☐ Thromboembolism
 - d) ☐ Progressive heart failure
 - e) ☐ Premature heart beats
-

179. CS. Choose the most common cause of myocarditis:

- a) ☐ Viral
 - b) ☐ Fungal
 - c) ☐ Toxic
 - d) ☐ Bacterial
 - e) ☐ Radiation
-

180. CS. Choose the most useful and informative method to diagnose myocarditis:

- a) ☐ Electrocardiography

- b) ☐ Echocardiography
 - c) ☐ Heart X-ray
 - d) ☐ Coronary angiography
 - e) ☐ Phonocardiography
-

181. CS. Select the predominant histological infiltrate in viral myocarditis:

- a) ☐ Monocytes
 - b) ☐ Cells
 - c) ☐ Eosinophiles
 - d) ☐ Polymorph nuclear cells
 - e) ☐ Neutrophils
-

182. CS. Indicate the ECG sign of myocarditis:

- a) ☐ Absence of P wave
 - b) ☐ Left and right ventricular hypertrophy
 - c) ☐ Low QRS voltage
 - d) ☐ Left and right atrium and hypertrophy
 - e) ☐ Complete right brunch bundle block of His
-

183. CS. Indicate the standard diagnostic criteria in myocarditis:

- a) ☐ Echocardiography
 - b) ☐ Endomyocardial biopsy
 - c) ☐ Coronary angiography
 - d) ☐ Myocardial scintigraphy with technetium - 99
 - e) ☐ Pharmacological test
-

184. CS. Select the contraindicated medication in acute myocarditis:

- a) ☐ Diuretics
 - b) ☐ Angiotensin converting enzyme inhibitors
 - c) ☐ Antiarrhythmic medication
 - d) ☐ NSAIDs
 - e) ☐ Immunoglobulin
-

185. CM. Select the main mechanisms of cardiac damage in myocarditis:

- a) ☐ Myocardial cell damage caused by invasion of the infection
 - b) ☐ Immunologically mediated myocardial damage
 - c) ☐ Direct action of toxins on the myocardium
 - d) ☐ Sympatoadrenergic mechanism
 - e) ☐ Neurohormonal activation
-

186. CM. Indicate the arrhythmias that can be found in myocarditis:

- a) ☐ Ccomplete sino atrial block
 - b) ☐ Ventricular extrasístoles
 - c) ☐ Atrial tachycardia
 - d) ☐ Atrial fibrillation
 - e) ☐ Sinusal tachycardia
-

187. CM. Select the clinical features of diffuse myocarditis:

- a) ☐ Inspiratory dyspnea

- b) ☐ Fatigability
 - c) ☐ Palpitations
 - d) ☐ Sever angina pain
 - e) ☐ Syncope
-

188. CM. Indicate the clinical syndromes in myocarditis:

- a) ☐ Respiratory failure
 - b) ☐ Heart failure
 - c) ☐ Chest pain
 - d) ☐ Arrhythmias
 - e) ☐ Abdominal syndrome
-

189. CM. Tick the specific cardiac biomarkers for myocarditis:

- a) ☐ Creatininfosfokinase -MB
 - b) ☐ Lactate - izoenzyme I
 - c) ☐ Troponin I
 - d) ☐ Alanine aminotransferase
 - e) ☐ β - lipoproteides
-

190. CM. Indicate the causes of myocarditis:

- a) ☐ Parasites
 - b) ☐ Fungus
 - c) ☐ Bacteria
 - d) ☐ Idiopathic
 - e) ☐ Autoimmune
-

191. CM. Select the non-infectious causes of myocarditis:

- a) ☐ Autoimmune diseases
 - b) ☐ Drug hypersensitivity
 - c) ☐ Toxines
 - d) ☐ Radiation
 - e) ☐ Q - fever
-

192. CM. Indicate the ECG signs in myocarditis:

- a) ☐ Decrease of QRS voltage
 - b) ☐ Cardiac arrhythmias
 - c) ☐ Heart block
 - d) ☐ Right ventricular hypertrophy
 - e) ☐ Right atrium hypertrophy
-

193. CM. Choose the complication of myocarditis:

- a) ☐ Arrhythmias
 - b) ☐ Conductibility abnormalities
 - c) ☐ Congestive heart failure
 - d) ☐ Thromboembolism
 - e) ☐ Left ventricle aneurysm
-

194. CM. Select the morphological Dallas criteria of active myocarditis:

- a) ☐ Poor cells infiltration

- b) ☐ Abundant inflammatory cell infiltration
 - c) ☐ Myocytes necrosis
 - d) ☐ Myocytes hipertrophy
 - e) ☐ Myocytes degeneration
-

195. CM. Indicate the laboratory abnormalities in myocarditis:

- a) ☐ B-12 deficient anemia
 - b) ☐ Hight C -reactive protein
 - c) ☐ Presence of circulating immune complexes
 - d) ☐ Increase of myocardial biomarkers
 - e) ☐ Hypochromic anemia
-

196. CM. Tick the medications used in acute staphylococcal myocarditis treatment:

- a) ☐ Diuretics
 - b) ☐ Inhibitors of converting angiotensin II enzyme
 - c) ☐ Immunoglobulin
 - d) ☐ Antiarrhythmic
 - e) ☐ Corticosteroids
-

197. CM. Choose the drugs that may increase viral replication in acute myocarditis:

- a) ☐ Corticosteroids
 - b) ☐ Anti-inflammatory drugs
 - c) ☐ Antibiotics
 - d) ☐ Antiarrhythmic
 - e) ☐ Diuretics
-

198. CM. Choose the medications recommended in myocarditis with congestive heart failure:

- a) ☐ Diuretics
 - b) ☐ Corticosteroids
 - c) ☐ Glycosides
 - d) ☐ Inhibitors of converting angiotensin II enzyme
 - e) ☐ Vitamins
-

199. CS. Indicate the most common type of syncope:

- a) ☐ Orthostatic hypotension
 - b) ☐ Cardiac arrhythmias
 - c) ☐ Neurogenic mediated
 - d) ☐ Structural cardiopulmonary diseases
 - e) ☐ Syncope of unknown origin
-

200. CS. Select the condition of neurogenic mediated syncope:

- a) ☐ Prolonged standing
 - b) ☐ Low blood pressure
 - c) ☐ Diabetes
 - d) ☐ Traumatic disorders of the spinal cord
 - e) ☐ Cardiac arrhythmias
-

201. CS. Indicate the condition of the situational syncope:

- a) ☐ Primary autonomic failure

- b) ☐ Secondary autonomic failure
 - c) ☐ Produced by gastrointestinal stimulation, urination, weight lifting
 - d) ☐ Occurs without triggers
 - e) ☐ Hypovolemia (bleeding, diarrhea, vomiting)
-

202. CS. Indicate the correct statement about orthostatic hypotension:

- a) ☐ Sudden reduction of the blood pressure in standing with over 40 mmHg
 - b) ☐ Progressive decrease of the systolic blood pressure in standing
 - c) ☐ Sinus tachycardia with the heart rate over 120 bpm (at least 30 bpm above the resting rate)
 - d) ☐ Decrease of the systolic blood pressure by at least 20 mmHg and diastolic blood pressure by at least 10 mmHg within 3 min of stand up
 - e) ☐ Occurs in situations of chronic fatigue syndrome
-

203. CS. Indicate the drug that may cause orthostatic hypotension:

- a) ☐ Anticoagulants
 - b) ☐ Diuretics
 - c) ☐ Antiarrhythmic
 - d) ☐ Antidiuretics
 - e) ☐ NSAIDs
-

204. CS. Indicate the groups where orthostatic hypotension is more frequently:

- a) ☐ Adult population
 - b) ☐ Elderly patients
 - c) ☐ Young women
 - d) ☐ Adolescents
 - e) ☐ Young men
-

205. CS. Indicate the correct statement about sinus carotid hypersensitivity syncope:

- a) ☐ Occurs sudden by movement of the head, closely tie knot
 - b) ☐ Produced by swallowing, defecation, visceral pain
 - c) ☐ Occurs by emotional stress
 - d) ☐ Occurs by instrumental manipulations
 - e) ☐ Occurs during or immediately after the swallowing
-

206. CS. Select the most common causes of cardiac syncope:

- a) ☐ Hypovolemia
 - b) ☐ Structural heart disease
 - c) ☐ Conductibility and rhythm disorders
 - d) ☐ Pulmonary valve stenosis
 - e) ☐ Aortic dissection
-

207. CS. Indicate the main method in the diagnosis of cardiac syncope:

- a) ☐ Eco-Doppler
 - b) ☐ Electrocardiogram
 - c) ☐ Chest X-ray
 - d) ☐ Tilt table test
 - e) ☐ Coronary angiography
-

208. CS. Indicate the most common type of syncope:

- a) ☐ Reflex mediated syncope
 - b) ☐ Syncope caused by structural heart disease
 - c) ☐ Orthostatic hypotension
 - d) ☐ Cardiac syncope caused by arrhythmias
 - e) ☐ The hypersensitivity syndrome of the carotid sinus
-

209. CM. Mark the suspicious clinical signs for a cardiac syncope:

- a) ☐ Presence of organic heart pathology
 - b) ☐ Onset with exertion or supine
 - c) ☐ Palpitations during syncope
 - d) ☐ Nauseas
 - e) ☐ Dizziness
-

210. CM. Indicate the suspicious clinical signs for a nonsyncope fall:

- a) ☐ Presence of post-critical disorientation
 - b) ☐ Tonic-clonic seizures during attack
 - c) ☐ Multiple somatic complaints and hits without organic heart damage
 - d) ☐ Association of fall with palpitation
 - e) ☐ Association of fall with dysarthria, diplopia
-

211. CM. Select the suspicious ECG signs of cardiac syncope:

- a) ☐ Left atrial hypertrophy
 - b) ☐ AV block II degree
 - c) ☐ Sinus bradycardia <50 bpm
 - d) ☐ Wolf Parkinson White syndrome
 - e) ☐ Prolonged QT
-

212. CM. Choose the factors that predicts rhythm disorder as a cause of syncope:

- a) ☐ Heart rate too low
 - b) ☐ Heart rate too quick
 - c) ☐ Normal ejection fraction
 - d) ☐ Low ejection fraction
 - e) ☐ Ventricular arrhythmia
-

213. CM. Indicate the structural heart diseases that cause syncope:

- a) ☐ Mitral regurgitation
 - b) ☐ Hypertrophic cardiomyopathy
 - c) ☐ Aortic stenosis
 - d) ☐ Mitral stenosis
 - e) ☐ Supraventricular extrasystolies
-

214. CM. Indicate the tests for differential diagnosis of syncope:

- a) ☐ Carotid sinus massage
 - b) ☐ Tilt-test
 - c) ☐ Holter-ECG monitoring
 - d) ☐ Electrophysiological studies
 - e) ☐ Ambulatory blood pressure monitoring
-

215. CM. Choose the methods for evaluation of neurogenic mediated syncope:

- a) ☐ Carotid sinus massage
 - b) ☐ Echocardiography
 - c) ☐ ECG term monitoring (Holter, implantable devices)
 - d) ☐ Electrophysiological studies
 - e) ☐ Tilt-test
-

216. CM. Indicate criteria for positive carotid sinus massage test:

- a) ☐ Asystole > 3 sec and/or decrease of systolic blood pressure > 50 mm from initial level
 - b) ☐ Suggestive clinical symptoms
 - c) ☐ Presence of post-critical disorientation
 - d) ☐ Increase of the blood pressure
 - e) ☐ Palpitations during the test
-

217. CM. Choose the tests non-informative diagnostic in evaluating syncope:

- a) ☐ Tilt-test
 - b) ☐ ECG monitoring
 - c) ☐ Electroencephalography
 - d) ☐ Magnetic Resonance Imaging
 - e) ☐ Computer tomography of brain
-

218. CM. Diagnostic criteria for neurogenic mediated syncope are:

- a) ☐ Lack of cardiac pathology
 - b) ☐ Presents of cardiac pathology
 - c) ☐ Onset after emotions, finding long in crowded places, prolonged orthostatic
 - d) ☐ Nausea, lightheadedness before syncope
 - e) ☐ Occurred in 1 hour after eating
-

219. CM. Select the correct statements in performing of carotid sinus massage:

- a) ☐ Age > 40 years
 - b) ☐ Unidentified cause of syncope (after initial assessment)
 - c) ☐ It performs during exertion
 - d) ☐ It performs supine position / standing
 - e) ☐ It is performed under ECG monitoring, blood pressure for 5-10sec
-

220. CM. Choose the true statements for Tilt - test:

- a) ☐ Recommended in syncope with unidentified genesis
 - b) ☐ It is performed in patients with intact heart
 - c) ☐ Positive test is considered the diagnosis for the vasovagal syncope
 - d) ☐ Positive test is loss of consciousness with induction of hypertension
 - e) ☐ Positive test is loss of consciousness with induction of tachycardia
-

221. CM. Indicate what require complete evaluation of a patient with syncope:

- a) ☐ Neurological evaluation
 - b) ☐ Psychiatric evaluation
 - c) ☐ Coronary angiography
 - d) ☐ Pharmacological tests
 - e) ☐ Electrophysiological study
-

222. CM. Select criteria for hospitalization in patient with syncope:

- a) ☐ Suspicious of cardiac syncope
 - b) ☐ Syncope is followed by a severe trauma
 - c) ☐ Rare syncope without risk factors
 - d) ☐ Single syncope episode
 - e) ☐ Syncope with high recurrence
-

223. CM. Indicate criteria for treatment in patients with syncope:

- a) ☐ Single syncope episodes without risk factors
 - b) ☐ Frequent syncope that affect the quality of life
 - c) ☐ Syncope without exposure to the trauma
 - d) ☐ High-risk professional activities (driving cars, machine operators, drivers and others)
 - e) ☐ Arrhythmic syncope with vital risk
-

224. CM. Select the true statements about cardiac syncope:

- a) ☐ Electrical cardiac stimulator implantation prevents the recurrence of syncope in patients with heart block
 - b) ☐ Implantation of the electrical cardiac stimulator decreases the survival
 - c) ☐ Implantation of the electrical cardiac stimulator will be considered in all patients with branch bundle block
 - d) ☐ Ventricular tachycardia is suspected as a cause of syncope in patients with left ventricular dysfunction
 - e) ☐ Supraventricular tachycardia is suspected as a cause of syncope in patients with left ventricular dysfunction
-

225. CM. Choose indications for tilt - table test?

- a) ☐ Syncope in patients with organic structural heart diseases
 - b) ☐ Undifferentiated syncope with a high risk of trauma
 - c) ☐ To differentiate vaso-vagal syncope and orthostatic hypotension
 - d) ☐ To confirm arrhythmogenic syncope
 - e) ☐ Is indicated for the assessment of treatment
-

226. CM. Select correct statements about pharmacological tilt - table test:

- a) ☐ Highly specificity (more than 90%)
 - b) ☐ It is performed with dopamine intravenous
 - c) ☐ It is used with isoproterenol intravenous
 - d) ☐ It is used sublingual nitroglycerin
 - e) ☐ It is performed 20 minutes after the base phase of the test
-

227. CM. Mention the indications for electrophysiological studies in patients with syncope:

- a) ☐ Reflex syncope
 - b) ☐ Suggesting an arrhythmia as the cause of a syncope
 - c) ☐ Palpitations precede syncope
 - d) ☐ Brugada syndrome
 - e) ☐ Patients with arrhythmogenic right ventricular cardiomyopathy
-

228. CM. Select correct statements about syncope in elderly:

- a) ☐ Syncope is more common than in the general population
- b) ☐ Rapid atrial fibrillation is a causal factor for the syncope in elderly
- c) ☐ Diuretics may cause syncope

- d) ☐ Statins can cause syncope
 - e) ☐ Neurological diseases can cause syncope
-

229. CS. Indicate the clinical sign that is NOT characteristic for the sudden cardiac death:

- a) ☐ It is natural death
 - b) ☐ Death from cardiac disease
 - c) ☐ The sudden loss of consciousness
 - d) ☐ Occurs within one hour of the onset of acute symptoms
 - e) ☐ Occurs within two hours after the onset of acute symptoms
-

230. CS. Indicate the EXCEPT element from definition of the sudden cardiac death:

- a) ☐ Prodromal
 - b) ☐ The onset of the final event
 - c) ☐ Respiratory failure
 - d) ☐ Cardiac arrest
 - e) ☐ Biological death
-

231. CS. Select the EXCEPT for the biological death:

- a) ☐ It is an immediate consequence of cardiac arrest
 - b) ☐ It is the failure of resuscitation
 - c) ☐ It is the absence of mechanical, electrical heart activity and central nervous system after the resuscitation
 - d) ☐ It is only the absence of mechanical, electrical activity of the heart after the resuscitation
 - e) ☐ Usually occurs within some minutes after the cardiac arrest
-

232. CS. Choose the precursory symptoms of cardiac sudden death:

- a) ☐ Often are absent and nonspecific
 - b) ☐ Often are well expressed and specific
 - c) ☐ Have an insidious onset
 - d) ☐ Don't lead to cardiac imminent arrest
 - e) ☐ Occur in an interval longer than one hour
-

233. CS. Select correct statement for the sudden cardiac death:

- a) ☐ It constitutes approximately 60% of all deaths from cardiac cause
 - b) ☐ It constitutes approximately 75% of all deaths from cardiac cause
 - c) ☐ It constitutes approximately 65% of all deaths from cardiac cause
 - d) ☐ It constitutes approximately 50% of all deaths from cardiac cause
 - e) ☐ It constitutes approximately 80% of all deaths from cardiac cause
-

234. CS. Tick the correct statement about sudden cardiac death:

- a) ☐ It is more common in males
 - b) ☐ It is more common in females
 - c) ☐ It has the same frequency in both sexes
 - d) ☐ It is more common in the elderly
 - e) ☐ It increases progressively in young people
-

235. CS. Indicate incorrect statement about sudden cardiac death:

- a) ☐ Prevalence by age group has two peaks
- b) ☐ High prevalence in the newborn period

- c) ☐ High prevalence in the elderly
 - d) ☐ In recent years gradually increase the proportion of women who die suddenly
 - e) ☐ It increases progressively the proportion of young people who die suddenly
-

236. CS. Select incorrect risk factors for sudden cardiac death:

- a) ☐ Myocardial ischemia
 - b) ☐ Hypertension
 - c) ☐ Smoking
 - d) ☐ Obesity
 - e) ☐ Mitral valve prolapse
-

237. CS. Mention the most frequent cause for the sudden cardiac death:

- a) ☐ Cardiomyopathies
 - b) ☐ Rheumatic heart diseases
 - c) ☐ Coronary atherosclerotic diseases
 - d) ☐ Inflammatory heart diseases
 - e) ☐ Congenital heart diseases
-

238. CS. Indicate the most important predictor of sudden cardiac death:

- a) ☐ Diabetes mellitus
 - b) ☐ The elongation of the ventricular repolarization
 - c) ☐ Severe left ventricular systolic dysfunction (EF <35%)
 - d) ☐ Low social economical status
 - e) ☐ Genetics
-

239. CS. Indicate the elements causes the electrical abnormalities in patients with sudden cardiac death:

- a) ☐ Scar zones
 - b) ☐ Left ventricular hypertrophy
 - c) ☐ Cracked plaque
 - d) ☐ Structurally normal heart
 - e) ☐ Occlusive thrombus
-

240. CS. Select INCORRECT statement about risk for sudden cardiac death in diabetes mellitus patients:

- a) ☐ Presence of accelerated forms of atherosclerosis
 - b) ☐ Increase of the thrombogenicity
 - c) ☐ Diabetic cardiomyopathy
 - d) ☐ QT prolongation
 - e) ☐ Association with mitral valve prolapse
-

241. CM. Choose EXCEPT element in the diagnosis of sudden cardiac death:

- a) ☐ Traumatic character
 - b) ☐ The natural character (non-traumatic)
 - c) ☐ Rapid (within 1 hour)
 - d) ☐ Insidious
 - e) ☐ Unexpected (sudden)
-

242. CM. Indicate the tachyarrhythmia's that can cause sudden cardiac death:

- a) ☐ Electromechanical dissociation
 - b) ☐ Ventricular fibrillation
 - c) ☐ Idioventricular rhythm
 - d) ☐ Bradycardia
 - e) ☐ Sustained ventricular tachycardia
-

243. CM. Mention the pathologies that can cause sudden cardiac death:

- a) ☐ Hypertrophic cardiomyopathy
 - b) ☐ Hypertension
 - c) ☐ Brugada syndrome
 - d) ☐ Mitral regurgitation
 - e) ☐ Myocardial bridges
-

244. CM. Indicate the mechanisms of electrical instability contribute to sudden cardiac death:

- a) ☐ Acute ischemia with the production of the electrical faults in the myocardium
 - b) ☐ Increased oxygen consumption in the presence of a significant coronary stenosis
 - c) ☐ Diffuse myocardial metabolic abnormalities
 - d) ☐ Stable angina pectoris
 - e) ☐ Myocardial infarction scars and appearance of the reentrant circuits
-

245. CM. Indicate the three classes of sudden cardiac death according Hinkle classification:

- a) ☐ Sudden arrhythmogenic death
 - b) ☐ Occurrence of the ventricular ectopies
 - c) ☐ Sudden death with circulatory failure
 - d) ☐ Sudden death without stating the cause
 - e) ☐ Installation of cardiac arrest
-

246. CM. Indicate the pathology that can be identified in ischemic heart disease in patients with sudden cardiac death:

- a) ☐ Scar zones
 - b) ☐ Left ventricular hypertrophy
 - c) ☐ Cracked atheroma plaques
 - d) ☐ Structurally normal heart
 - e) ☐ Occlusive thrombus
-

247. CM. Mention the prodromal symptoms of sudden cardiac death:

- a) ☐ Chest pain
 - b) ☐ Dyspnea
 - c) ☐ Cough
 - d) ☐ Palpitations
 - e) ☐ Syncope
-

248. CM. Indicate correct statements for event in the onset of sudden cardiac death:

- a) ☐ Installation of hypertension
 - b) ☐ Slow changes of the clinical status
 - c) ☐ Dynamic changes in the electrical activity of the heart
 - d) ☐ Occurrence of malignant ventricular arrhythmias
 - e) ☐ Installation of the cardiac arrest
-

249. CM. Select the characteristics of the cardiac arrest:

- a) ☐ Sudden stop of the pump function that quickly leads to death
 - b) ☐ Increase of cerebral flow
 - c) ☐ Effective circulation
 - d) ☐ Hypotension
 - e) ☐ Syncope
-

250. CM. Indicate the interval of time that irreversible brain damages occur:

- a) ☐ After 4-6 minutes from the stopping of the cerebral circulation in the absence of any intervention
 - b) ☐ After 8 minutes after application of basal life support
 - c) ☐ 20 minutes after application of basal life support
 - d) ☐ After 20 minutes from the stop of the cerebral circulation in the absence of any intervention
 - e) ☐ About 16 min if advanced resuscitation measures are applied
-

251. CM. Thick the characteristic signs of sudden cardiac death:

- a) ☐ Gradual breathing stop - "mirror sign"
 - b) ☐ Absence of pulse on carotid vessels
 - c) ☐ Dyspnea
 - d) ☐ Loss of consciousness
 - e) ☐ Mydriasis (2-3 minutes)
-

252. CM. Choose the cardiac causes of the sudden cardiac death in children:

- a) ☐ Idiopathic ventricular fibrillation
 - b) ☐ Congenital QT syndrome
 - c) ☐ Bleeding
 - d) ☐ Myocarditis
 - e) ☐ Asthma access
-

253. CM. Indicate the non-cardiac causes of sudden death in children:

- a) ☐ Idiopathic ventricular fibrillation
 - b) ☐ Congenital QT syndrome
 - c) ☐ Bleeding
 - d) ☐ Poisoning
 - e) ☐ Asthma access
-

254. CM. Indicate the non-invasive methods in assessment of patients with a risk for sudden cardiac death.

- a) ☐ Electrophysiological tests
 - b) ☐ EcoCG - Doppler
 - c) ☐ ECG
 - d) ☐ CT heart
 - e) ☐ Cardiac catheterization
-

255. CM. Select the invasive methods in assessment of patients with a risk for sudden cardiac death

- a) ☐ Electrophysiological tests
- b) ☐ ECoCG-Doppler
- c) ☐ Coronary angiography

- d) ☐ Scheduled stimulation
 - e) ☐ Cardiac catheterization
-

256. CM. Indicate the ECG signs in patients with increased risk of sudden cardiac death:

- a) ☐ Short QT interval
 - b) ☐ Left ventricular hypertrophy
 - c) ☐ Long QT interval
 - d) ☐ Brugada syndrome
 - e) ☐ Left and right atrium hypertrophy
-

257. CM. Choose the relevant data detected by Eco-CG Doppler in patients with high risk of sudden cardiac death:

- a) ☐ Ejection fraction <30-35%
 - b) ☐ Ejection fraction $\geq 35\%$
 - c) ☐ Negative T wave
 - d) ☐ Tricuspid regurgitation
 - e) ☐ Sever aortic stenosis
-

258. CM. Select the indication for Holter ECG monitoring in patients with risk of sudden cardiac death:

- a) ☐ Ventricular arrhythmias
 - b) ☐ Impaired left ventricular function
 - c) ☐ Hypertrophic cardiomyopathy
 - d) ☐ The assessment of ventricular brady arrhythmias
 - e) ☐ Syncope
-

259. CS. Indicate the age in which about 83% of the population is affected by coronary heart disease:

- a) ☐ 45 years
 - b) ☐ 35 years
 - c) ☐ 65 years
 - d) ☐ 85 years
 - e) ☐ 70 years
-

260. CS. Select the correct definition of the body mass index:

- a) ☐ Circumference measured from the umbilicus and halfway between the costal margin and iliac crest
 - b) ☐ The ratio of weight (kg) and the square of the height (m)
 - c) ☐ Report of the 2 circumferences reflects the type of obesity
 - d) ☐ LDL cholesterol and HDL cholesterol ratio
 - e) ☐ Report of 3 circumferences reflects the type of obesity
-

261. CS. Chose the definition of the obesity paradox:

- a) ☐ Growing problem in the developed world
 - b) ☐ It is a major risk factor for atherosclerotic disease
 - c) ☐ A better short or long-term prognosis for overweight or obese patients
 - d) ☐ It is a minor risk factor for atherosclerotic disease
 - e) ☐ A poor short or long-term prognosis for overweight or obese patients
-

262. CS. Select what Framingham scores represents:

- a) ☐ Equations that take into account gender, age, total cholesterol, HDL cholesterol, smoking status and systolic blood pressure
 - b) ☐ Deaths from non-coronary atherosclerosis
 - c) ☐ The mean ages adapted to the cardiovascular risk
 - d) ☐ Cardiovascular mortality related to the total cardiovascular events
 - e) ☐ It is available in two versions: one for low-risk regions and another for those at high risk
-

263. CS. Indicate, which from the following is the correct definition of abdominal circumference:

- a) ☐ Circumference measured from the umbilicus and halfway between the costal margin and iliac crest
 - b) ☐ The ratio of weight (kg) and the square of the height (m)
 - c) ☐ Report of the two circumferences reflects the type of obesity
 - d) ☐ LDL and HDL cholesterol ratio
 - e) ☐ Report of three circumferences reflects the type of obesity
-

264. CS. Indicate which of the following is the correct about definition of waist to hip ratio

- a) ☐ Circumference measured from the umbilicus and halfway between the costal margin and iliac crest
 - b) ☐ The ratio of weight (kg) and the square of the height (m)
 - c) ☐ Report of the two circumferences reflects the type of obesity
 - d) ☐ LDL cholesterol and HDL cholesterol ratio
 - e) ☐ Report of three circumferences reflects the type of obesity
-

265. CS. Select the correct statement about hyperhomocysteinaemia:

- a) ☐ Representing a moderately independent favorable cardiovascular risk factor
 - b) ☐ Genetic defects leading to procoagulant potential are known as thrombophilia
 - c) ☐ The main changes are found in the population type MTHFR C677T gene mutation A1298C respectively
 - d) ☐ Hyperhomocysteinaemia cause is not known
 - e) ☐ The main changes occur in mediterranean population
-

266. CM. Select the types of cardiovascular risk factors:

- a) ☐ Non traditional
 - b) ☐ Good
 - c) ☐ Traditional
 - d) ☐ Modifiable
 - e) ☐ Bad
-

267. CM. Tick the cardiovascular risk factors that are considered modifiable:

- a) ☐ Obesity
 - b) ☐ Age
 - c) ☐ Hypertension
 - d) ☐ Sex
 - e) ☐ Smoking
-

268. CM. Choose correct statements about major risk factors defined by Word Health Organization:

- a) ☐ High prevalence in the population
 - b) ☐ Low prevalence in the population
 - c) ☐ Independent impact on the risk of coronary heart disease or stroke
 - d) ☐ Treatment or control lowers the risk
 - e) ☐ Treatment or control risk-accelerating
-

269. CM. Tick the cardiovascular risk factors that are considered unmodifiable:

- a) ☐ Obesity
 - b) ☐ Age
 - c) ☐ High blood pressure
 - d) ☐ Sex
 - e) ☐ Family history
-

270. CM. Indicate the factors which increase prevalence of obesity as a major cardiovascular risk factor:

- a) ☐ Social factors
 - b) ☐ Dietary habits
 - c) ☐ Hypertension
 - d) ☐ Alcohol abuse
 - e) ☐ Lack of physical activity
-

271. CM. Indicate the difference between SCORE and Framingham score:

- a) ☐ SCORE assess only the risk of cardiovascular mortality
 - b) ☐ Assessment of SCORE includes diabetes
 - c) ☐ Assessment of SCORE includes HDL-cholesterol
 - d) ☐ Assessment of SCORE includes total cholesterol
 - e) ☐ SCORE assess the risk for cardiovascular events
-

272. CM. Choose the correct statements about dyslipidemia:

- a) ☐ Great prevalence and susceptibility of being modified
 - b) ☐ It is one of the factors with low prevalence and susceptibility of being modified
 - c) ☐ Is related to cardiovascular mortality and total cardiovascular events
 - d) ☐ Has better short or long-term prognosis for overweight and obese patients
 - e) ☐ Includes a number of disorders of lipid metabolism potentially induction of atherosclerosis
-

273. CM. Indicate the components included in the cardiovascular prevention according to the World Health Organization:

- a) ☐ Family strategy
 - b) ☐ Population strategy
 - c) ☐ Strategy for high-risk populations
 - d) ☐ Secondary prevention
 - e) ☐ Strategy for low risk populations
-

274. CM. Choose the characteristics of individuals with high cardiovascular risk:

- a) ☐ Multiple risk factors, giving a risk score $\geq 5\%$
- b) ☐ Marked increased level of a single risk factor, such as BP $\geq 180/110$ mmHg
- c) ☐ Total cholesterol ≥ 5 mmol/L
- d) ☐ Presents of diabetes mellitus
- e) ☐ Multiple risk factors, giving a risk score $\geq 3\%$

275. CM. Indicate the correct statements about chart SCORE:

- a) ☐ Assess the risk of fatal cardiovascular event within 10 years
 - b) ☐ Assess the risk of fatal cardiovascular event within 5 years
 - c) ☐ Assess the impact of non-traditional risk factors
 - d) ☐ Estimate the absolute risk of death in the same age group
 - e) ☐ Highlights the effect of the action of a risk factor over time
-

276. CM. Tick the factors of hemostasis which correlate with increased cardiovascular risk:

- a) ☐ Activated factor VII
 - b) ☐ Plasminogen activator inhibitor-1
 - c) ☐ Activated factor V
 - d) ☐ Tissue plasminogen activator
 - e) ☐ Von Willebrand factor
-

277. CM. Indicate the lifestyle changes which reduce cardiovascular risk in hypertension:

- a) ☐ High sodium diet, low weight, moderate consumption of ethyl alcohols
 - b) ☐ Low sodium diet, low weight, moderate consumption of ethyl alcohols
 - c) ☐ Regular physical activity
 - d) ☐ Limitation of physical activity
 - e) ☐ An optimal control of blood pressure values
-

278. CM. Choose the mechanisms which increase cardiovascular risk in smoking:

- a) ☐ Increased total cholesterol and lower HDL cholesterol
 - b) ☐ Increasing of circular fibrinogen
 - c) ☐ Decreasing of circular fibrinogen
 - d) ☐ Arterial vasodilation
 - e) ☐ Increasing heart rate and blood pressure
-

279. CS. Choose which of the markers listed below refers to the injury of myocytes:

- a) ☐ C-reactive protein
 - b) ☐ Norepinephrine
 - c) ☐ Angiotensin II
 - d) ☐ Oxidized low-density lipoproteins
 - e) ☐ Troponins I and T
-

280. CS. Choose, which set of the markers listed below, refers to those of inflammation:

- a) ☐ C-reactive protein tumor necrosis factor alpha, interleukins, Fas (APO1)
 - b) ☐ Norepinephrine, epinephrine, angiotensin II, renin, aldosterone, arginine vasopressin, endothelin
 - c) ☐ B- natriuretic peptide (BNP), NTpro-BNP, proadrenomedullina
 - d) ☐ Oxidized low-density lipoproteins, myeloperoxidases, malondialdehyde, urinary biopirines
 - e) ☐ Troponins T, creatine kinase MB, light chain myosin kinase, cardiac fatty acids
-

281. CS. Choose, which set of the markers listed below, refers to those of oxidative stress:

- a) ☐ C-reactive protein, tumor necrosis factor alpha, interleukins, Fas (APO1)
- b) ☐ Norepinephrine, epinephrine, angiotensin II, renin, aldosterone, arginine vasopressin, endothelin
- c) ☐ B- natriuretic peptide (BNP), NTpro-BNP, proadrenomedullina

- d) ☐ Oxidized low-density lipoproteins, myeloperoxidases, malondialdehyde, urinary biopirines
e) ☐ Troponins T, creatine kinase MB, light chain myosin kinase, cardiac fatty acids
-

282. CS. Choose, which set of the markers listed below, refers to neurohormonal ones:

- a) ☐ C-reactive protein, tumor necrosis factor alpha, interleukins, Fas (APO1)
b) ☐ Norepinephrine, epinephrine, angiotensin II, renin, aldosterone, arginine vasopressin, endothelin
c) ☐ B- natriuretic peptide (BNP), NTpro-BNP, proadrenomedulline
d) ☐ Oxidized low-density lipoproteins, myeloperoxidases, malondialdehyde, urinary biopirines
e) ☐ Troponins T, creatine kinase MB, light chain myosin kinase, cardiac fatty acids
-

283. CS. Choose which of the biomarkers refers to the stress of myocytes:

- a) ☐ Tumor necrosis factor alpha
b) ☐ Angiotensin II
c) ☐ B - natriuretic peptide
d) ☐ Myeloperoxidases
e) ☐ Creatine kinase - MB
-

284. CS. Indicate the correct statements about continuous ECG monitoring:

- a) ☐ Recommended for patients with hypertension
b) ☐ Particularly useful in symptomatic patients with intermittent symptoms occurring daily or almost daily
c) ☐ The most used method for the diagnosis of unstable angina
d) ☐ Provides information about pulmonary circulation and thoracic aorta
e) ☐ The most used method for the diagnosis of acute myocardial infarction
-

285. CS. Indicate the correct statements about intermittent ECG monitoring are:

- a) ☐ Recommended for patients with sporadic symptoms able to activate the device immediately
b) ☐ Particularly useful in symptomatic patients with intermittent symptoms occurring daily or almost daily
c) ☐ The most used method for the diagnosis of unstable angina
d) ☐ Provides information about pulmonary circulation and thoracic aorta
e) ☐ The most used method for the diagnosis of acute myocardial infarction
-

286. CS. Thick the correct value of resting potential of cardiomyocytes:

- a) ☐ -70mV
b) ☐ +40mV
c) ☐ -90mV
d) ☐ 0 mV
e) ☐ +10 mV
-

287. CS. Choose how many derivations are used to record standard ECG:

- a) ☐ 10 derivation
b) ☐ 12 derivations
c) ☐ 6 derivations
d) ☐ 8 derivations
e) ☐ 2 derivations
-

288. CS. Indicate what show the enlargement of the right atrium on radiography:

- a) ☐ Opacity of retrosternal space
 - b) ☐ Bulging lower arch as more than 5.5 cm to the right of the midline
 - c) ☐ Previous projection of thoracic vertebral bodies
 - d) ☐ Opacity of sub diaphragmatic space
 - e) ☐ Diffuse opacity
-

289. CS. Select the FALSE statement regarding pulsed Doppler:

- a) ☐ It measures blood velocity in the direction of the ultrasound beam
 - b) ☐ It has a low amplitude measurable velocity
 - c) ☐ It measures blood velocity only in the interest zone
 - d) ☐ It is destined for flows with low velocity
 - e) ☐ It has a spatial resolution
-

290. CS. Indicate the EXCEPT advantage of radionuclide ventriculography over radiological ventriculography with contrast:

- a) ☐ The test provides detailed information on the anatomy of the cardiac chambers and valvular function
 - b) ☐ The ability to study both ventricles simultaneously
 - c) ☐ Ability to take repeated measurements (before and after exercise)
 - d) ☐ The method provides optimum contrast between target ventricular volumes and background
 - e) ☐ Noninvasive nuclear procedures
-

291. CS. Indicate the EXCEPT situation for ECG exercise test cessation:

- a) ☐ Decrease of systolic blood pressure over 10 mm Hg from baseline
 - b) ☐ Hiccup
 - c) ☐ Moderate/severe angina pain
 - d) ☐ Dizziness, ataxia or presyncope
 - e) ☐ Cyanosis or pallor of skin
-

292. CS. Select the correct distance of thoracic X-ray examination in posterior-anterior incidence:

- a) ☐ 1,5-2 m
 - b) ☐ 30-50 cm
 - c) ☐ 1 m
 - d) ☐ 20-25 cm
 - e) ☐ 2-3 m
-

293. CS. Indicate the correct statements about ECG at rest:

- a) ☐ It is the most used method in the diagnosis of stable angina
 - b) ☐ It is a noninvasive method most commonly used in cardiological examination
 - c) ☐ It is used to assess heart structures and its chambers
 - d) ☐ Provides information about pulmonary circulation and thoracic aorta
 - e) ☐ Allows continuous monitoring of heart disease
-

294. CS. Select which IS NOT characteristic for positron emission tomography:

- a) ☐ It is indicated in patients with hypo perfused and dysfunctional myocardial segments
- b) ☐ It is indicated in metabolic syndrome
- c) ☐ It is used to detect microcirculation dysfunction
- d) ☐ It is used to determine the coronary calcium score

e) ☐ It is ECG based method

295. CS. Select the general diagnostic accuracy of positron emission tomography study:

- a) ☐ 90 %
 - b) ☐ 60%
 - c) ☐ 100%
 - d) ☐ 75%
 - e) ☐ 40%
-

296. CS. Indicate the most used score to determine coronary calcium score:

- a) ☐ Mobitz score
 - b) ☐ Hounsfield score
 - c) ☐ Agatston score
 - d) ☐ Sokolow score
 - e) ☐ Hoffman score
-

297. CS. Indicate what IS NOT characteristic for balanced radionuclide ventriculography:

- a) ☐ Assume the purchase of 16-24 frames in RR interval
 - b) ☐ It is records a short sequence of cardiac cycles
 - c) ☐ In balanced radionuclide ventriculography labeled 99mTc red blood cells are used
 - d) ☐ Balanced radionuclide ventriculography synchronized requires the presence of sinus rhythm
 - e) ☐ Data are acquired sequentially in the memory of a proper frame
-

298. CS. Select what ECG exercise testing included:

- a) ☐ Administration of Dipyridamole
 - b) ☐ Tilted table
 - c) ☐ Cycling or treadmill
 - d) ☐ Administration of Ergometrine
 - e) ☐ Respiratory exercises
-

299. CS. Mention what is the intracardiac electrophysiological study:

- a) ☐ Noninvasive diagnostic method of cardiac rhythm disorders
 - b) ☐ Invasive diagnostic method of cardiac rhythm disorders and management of cardiac arrhythmias
 - c) ☐ Study of cardiac activity using 3D Eco
 - d) ☐ Exclusive diagnostics of atrial and ventricular fibrillation
 - e) ☐ Method of testing only in elderly patients
-

300. CS. Indicate the most often used way of approach for introducing catheters in electrophysiological study:

- a) ☐ Vena saphena magna
 - b) ☐ Fémorale veine
 - c) ☐ Abdominal aorta
 - d) ☐ Inferior vena cava
 - e) ☐ Femoral artery
-

301. CS. Choose the radiological sign of ascending aorta dilation:

- a) ☐ A prominent aortic button
- b) ☐ Difficult to assess

- c) ☐ Curved upper right arc
 - d) ☐ Curved arc left upper
 - e) ☐ Not changes on radiography
-

302. CS. Indicate the X-ray characteristic of the pulmonary venous hypertension:

- a) ☐ Vessels in the upper lung fields are equal to or greater than the basal
 - b) ☐ Vessels in the upper lung fields are equal to or less than the basal
 - c) ☐ Vessels in the upper lung fields become equal to the basal
 - d) ☐ Dilatation of the pulmonary artery trunk
 - e) ☐ Spasm of central vessels
-

303. CS. Choose the NOT characteristic X-ray aspects of interstitial pulmonary edema:

- a) ☐ The opaque pleural axillary or basal tape
 - b) ☐ Changes in heart consideration
 - c) ☐ The inelar opacity
 - d) ☐ Left atrium increase
 - e) ☐ Alveolar transudation as nodular opacity, localized mainly at the base
-

304. CS. Choose the definition of cardiac biomarkers sensitivity:

- a) ☐ The power to identify real negative cases
 - b) ☐ The ability to detect true positive cases
 - c) ☐ Ability to identify a single disease
 - d) ☐ Presence of instable marker in the body
 - e) ☐ The vulnerability of the marker to the action of environmental factors
-

305. CS. Choose the definition of specificity of cardiac biomarkers:

- a) ☐ The ability to detect true positive cases
 - b) ☐ The vulnerability of the marker to the action of environmental factors
 - c) ☐ Ability to identify a single disease
 - d) ☐ The power to identify real negative cases
 - e) ☐ Presence of instable marker in the body
-

306. CS. Indicate what the left middle arch on thoracic radiography is:

- a) ☐ Ascending aorta
 - b) ☐ Pulmonary trunk
 - c) ☐ Descending aorta
 - d) ☐ Left atrium
 - e) ☐ Left ventricle
-

307. CS. Mention what is necessary to introduce in intracavitary ventriculography:

- a) ☐ Foley Catheter
 - b) ☐ Catheter "Pigtail"
 - c) ☐ Sleep probe
 - d) ☐ Probe Swan-Ganz
 - e) ☐ Judkins catheter
-

308. CS. Tick the NOT frequent complications of cardiac catheterization and angiography:

- a) ☐ Hematoma at puncture site
- b) ☐ Vasovagal reactions

- c) ☐ Allergic reactions to contrast agents and drugs
 - d) ☐ Inflammation or exudate at puncture site
 - e) ☐ Trauma
-

309. CM. Select the biomarkers related to of myocytes injury:

- a) ☐ Troponin I and T
 - b) ☐ Cardiac fatty acids bound to protein
 - c) ☐ Creatine kinase - MB
 - d) ☐ Albumin modified by ischemia
 - e) ☐ Interleukins 1, 6
-

310. CM. Select the biomarkers related to interstitial remodeling matrix:

- a) ☐ Myosin - light chain kinase
 - b) ☐ C-reactive protein
 - c) ☐ Matrix metalloproteinase
 - d) ☐ Tissue inhibitors of metalloproteinase
 - e) ☐ Peptide procollagen I
-

311. CM. Select the biomarkers related to inflammation:

- a) ☐ Albumin modified by ischemia
 - b) ☐ C-reactive protein
 - c) ☐ Tumor necrosis factor alpha
 - d) ☐ Fas (APO-1)
 - e) ☐ Interleukins 1, 6 and 8
-

312. CM. Select the biomarkers related to oxidative stress:

- a) ☐ Oxidized low density lipoprotein
 - b) ☐ Mielloproteases
 - c) ☐ Melondialdehyde
 - d) ☐ C-reactive protein
 - e) ☐ Tumor necrosis factor alpha
-

313. CM. Select the biomarkers related to neuromoral abnormalities:

- a) ☐ Peptide heart natriuretic
 - b) ☐ Renin - angiotensin-aldosterone
 - c) ☐ Adrenergic nervous system
 - d) ☐ Arginine vasopressin
 - e) ☐ Mielloproteases
-

314. CM. Indicate the suggesting diagnosis provided by ECG:

- a) ☐ Acute Coronary Syndrome
 - b) ☐ Arrhythmias
 - c) ☐ Dilated cardiomyopathy
 - d) ☐ Conductibility disorders
 - e) ☐ Dis electrolytemia
-

315. CM. Select the indications to the standard 12 leads electrocardiogram in cardiology practice:

- a) ☐ Assessment of the side effects of treatment

- b) ☐ Regularly evaluation of chronic heart disease
 - c) ☐ Evaluation of patients with increased risk of cardiovascular
 - d) ☐ Routine examinations of patients > 40 years old
 - e) ☐ Routine examinations of patients > 60 years old
-

316. CM. Indicate the correct statements about left ventricular hypertrophy:

- a) ☐ ST segment elevation on ECG
 - b) ☐ It is an independent prognostic parameter value
 - c) ☐ It is important for risk stratification in hypertensive patients
 - d) ☐ Lower sensitivity of ECG compared to echocardiography
 - e) ☐ No changes on ECG
-

317. CM. Select what condition can influence quality of ECG:

- a) ☐ Chronic lung disease
 - b) ☐ Incorrect placement of electrodes
 - c) ☐ Obesity
 - d) ☐ Renal involvement
 - e) ☐ Respiratory movements
-

318. CM. Select the indications to standard 12-lead electrocardiogram:

- a) ☐ Pacemaker implant
 - b) ☐ Increased risk of heart disease
 - c) ☐ Stable chronic heart disease
 - d) ☐ Patients aged >40 during a routine examination
 - e) ☐ Acute respiratory impairment
-

319. CM. Thick the main ECG criteria for diagnosis of left ventricular hypertrophy:

- a) ☐ Sokolow-Lyon
 - b) ☐ Duck
 - c) ☐ Wenckebah
 - d) ☐ Cornell
 - e) ☐ Mobitz
-

320. CM. Select the absolute contraindications for ECG stress test:

- a) ☐ Acute aortic dissection
 - b) ☐ Headache
 - c) ☐ Physical or mental disorders
 - d) ☐ Myocardial infarction (within 2 days after onset)
 - e) ☐ Acute pulmonary embolism
-

321. CM. Indicate what is used for perfusion in imaging:

- a) ☐ Technetium 99
 - b) ☐ Vasovist
 - c) ☐ Thallium 201
 - d) ☐ TESLASCAN
 - e) ☐ BaSO4
-

322. CM. Choose what includes radionuclide imaging in cardiology:

- a) ☐ Myocardial perfusion scintigram

- b) ☐ Radionuclide ventriculography
 - c) ☐ ECG Holter
 - d) ☐ Positron emission tomography
 - e) ☐ Ergometry
-

323. CM. Select the indication for transesophageal echocardiography:

- a) ☐ Detection of small vegetation in infective endocarditis
 - b) ☐ Detecting of sources of embolism
 - c) ☐ Evaluation of congenital heart disease
 - d) ☐ Evaluation of aortic prostheses
 - e) ☐ Hypertension
-

324. CM. Mention the contrast agents used in CT examination in cardiology:

- a) ☐ Silicon
 - b) ☐ OMNIPAQUE
 - c) ☐ Visipaque
 - d) ☐ Technetium
 - e) ☐ Ultravist
-

325. CM. Tick the physiological limitations of CT investigation:

- a) ☐ The presence of arrhythmias
 - b) ☐ Sinus tachycardia
 - c) ☐ The presence of calcifications
 - d) ☐ The cost of the contrast
 - e) ☐ Irradiance dose
-

326. CM. Select what magnetic resonance imaging allows diagnosing:

- a) ☐ Hypertension
 - b) ☐ Myocarditis
 - c) ☐ Cardiomyopathy
 - d) ☐ Valvulopathy
 - e) ☐ Angina pectoris
-

327. CM. Indicate the main indications for ambulatory ECG monitoring:

- a) ☐ Unexplained palpitations
 - b) ☐ Assessment of antiarrhythmic therapy
 - c) ☐ Cardiac tamponade
 - d) ☐ Pericardial effusion
 - e) ☐ Patients with unexplained syncope
-

328. CM. Choose the X ray characteristics of arterial pulmonary hypertension:

- a) ☐ Vessels in the upper lung fields are equal to or greater than the basal
 - b) ☐ Vessels in the upper lung fields are equal to or less than the basal
 - c) ☐ Vessels in the upper lung fields become equal to the basal
 - d) ☐ Dilatation of the pulmonary artery trunk
 - e) ☐ Pulmonary hilum is large due to much dilate central vessels compared with peripheral ones
-

329. CM. Indicate echocardiography advantages:

- a) ☐ It provides accurate information about structure and function of the heart

- b) ☐ It is widely available
 - c) ☐ It is easily repeatable if necessary
 - d) ☐ It is invasive method
 - e) ☐ It is cost-effective
-

330. CM. Select the main methods used for routine echocardiography:

- a) ☐ Echocardiography in M regime
 - b) ☐ Trans esophageal echocardiography
 - c) ☐ 2D echocardiography (two-dimensional)
 - d) ☐ Doppler echocardiography
 - e) ☐ 3D echocardiography
-

331. CM. Mention which of the following should be determined to assess pulmonary circulation:

- a) ☐ Right pulmonary diameter
 - b) ☐ Distribution of pulmonary circulation
 - c) ☐ Spirography results
 - d) ☐ It can't be appreciated
 - e) ☐ Diameter of aorta
-

332. CM. Select types of potential serological biomarkers present in cardiovascular disease:

- a) ☐ Myocytes injury markers
 - b) ☐ Markers of inflammation
 - c) ☐ Oxidative stress markers
 - d) ☐ Electric markers
 - e) ☐ Psychological stress markers
-

333. CM. Choose the myocyte injury markers:

- a) ☐ C-reactive protein
 - b) ☐ Troponin I and T
 - c) ☐ Myosin light chain kinase
 - d) ☐ Malondialdehyde
 - e) ☐ B natriuretic peptide
-

334. CM. Choose myocyte stress markers:

- a) ☐ B natriuretic peptide
 - b) ☐ Malondialdehyde
 - c) ☐ Proadrenomedullin
 - d) ☐ Troponin I and T
 - e) ☐ Interleukins
-

335. CS. Indicate complication of chronic renal failure:

- a) ☐ Hypertrophic cardiomyopathy
 - b) ☐ Uremic pericarditis
 - c) ☐ Angina pectoris
 - d) ☐ Myocarditis
 - e) ☐ Valvular heart disease
-

336. CS. Select the group of drug used in treatment of viral pericarditis:

- a) ☐ Antibiotics

- b) ☐ Non-steroidal anti-inflammatory drugs
 - c) ☐ Chemotherapy
 - d) ☐ b-blockers
 - e) ☐ Antifungal
-

337. CS. Tick the most important auscultation feature in constrictive pericarditis:

- a) ☐ Noise of a falling drop
 - b) ☐ Diastolic clacment
 - c) ☐ Gallop rhythm
 - d) ☐ Systolic blast
 - e) ☐ Noise II in place of aortic valve auscultation
-

338. CS. Tick the cause of cardiac tamponade:

- a) ☐ Basal pneumonia
 - b) ☐ Mitral insufficiency
 - c) ☐ Uremia
 - d) ☐ Hypertension
 - e) ☐ Ventricular paroxysmal tachycardia
-

339. CS. Tick the group of drugs used in the treatment of septic pericarditis:

- a) ☐ Antibiotics
 - b) ☐ Diuretics
 - c) ☐ Analgesics
 - d) ☐ Antihypertensive
 - e) ☐ Diuretics
-

340. CS. Indicate EXCEPT form of pericarditis:

- a) ☐ Post myocardial infarction
 - b) ☐ Uremic
 - c) ☐ Pre myocardial infarction
 - d) ☐ Post irradiation
 - e) ☐ Tuberculosis
-

341. CS. Mention the EXCEPTION viral disease as cause of infectious pericarditis:

- a) ☐ Endemic mumps
 - b) ☐ Varicella
 - c) ☐ AIDS
 - d) ☐ Viral meningitis
 - e) ☐ Infectious mononucleosis
-

342. CS. Indicate the ECG characteristic of III stage acute pericarditis:

- a) ☐ Negative T waves in I, II, aVL
 - b) ☐ Negative T waves in aVR, V1, V2
 - c) ☐ ST segment depression in aVR, V1, V2
 - d) ☐ ST segment elevation in aVF, V3 - V6
 - e) ☐ Segment PR depression in aVR, V1, V2
-

343. CM. Tick the methods of diagnosis in acute pericarditis:

- a) ☐ EcoCG

- b) ☐ Chest radiography
 - c) ☐ Radionuclide study
 - d) ☐ Stress - test
 - e) ☐ Ventriculography
-

344. CM. Indicate the ECG characteristics of first stage acute pericarditis:

- a) ☐ Inverted T wave in aVR, V1-V2
 - b) ☐ T wave is positive in I, II, aVL
 - c) ☐ ST segment elevation in aVF, V3-V6
 - d) ☐ T is negative in I, II, III, aVL
 - e) ☐ T is positive in aVR, V1-V2
-

345. CM. Select the laboratory tests used for the diagnosis of acute pericarditis:

- a) ☐ Serological - HIV
 - b) ☐ Hepatic enzymes
 - c) ☐ Lipid profile
 - d) ☐ Electrolytes assessment
 - e) ☐ Tuberculin testing, viral markers
-

346. CM. Select the factors that determine the quantity of pericardial effusion:

- a) ☐ Patient's age
 - b) ☐ Absolute volume of effusion
 - c) ☐ Physiological properties of the pericardium
 - d) ☐ The time of fluid accumulation
 - e) ☐ Heart rate
-

347. CM. Choose the criteria's of cardiac tamponade:

- a) ☐ Increased pressure in the pericardium
 - b) ☐ Progressive limitation of ventricular diastolic filling
 - c) ☐ Reduction of stroke volume and cardiac output
 - d) ☐ Increased systolic volume
 - e) ☐ Increase in stroke volume and cardiac output
-

348. CM. Indicate the clinical features of heart tamponade:

- a) ☐ Diaphoresis
 - b) ☐ Chest pain
 - c) ☐ Hypertension
 - d) ☐ Tachycardia
 - e) ☐ Musset sign
-

349. CM. Mention the methods of diagnosis in suspicion of cardiac tamponade:

- a) ☐ Chest radiography
 - b) ☐ EcoCG
 - c) ☐ Urography
 - d) ☐ Ophthalmoscopy
 - e) ☐ Pericardiocentesis
-

350. CM. Indicate the mechanisms of uremic pericarditis:

- a) ☐ Hyper function of parathyroid gland

- b) ☐ Hypercorticism
 - c) ☐ Hypoglycemia
 - d) ☐ Increasing of nitric catabolism metabolites
 - e) ☐ Increasing of protein anabolism metabolites
-

351. CM. Select the neoplastic diseases leading to pericardial effusion:

- a) ☐ Lung cancer
 - b) ☐ Leukemia
 - c) ☐ Ovarian cyst
 - d) ☐ Intestinal polyposis
 - e) ☐ Leiomyosarcoma
-

352. CM. Tick the heart involvement in neoplastic metastasis:

- a) ☐ Extension of mediastinal malignant mass to the pericardium
 - b) ☐ Diffuse pericardial thickening and tumor infiltration
 - c) ☐ Heterogeneous lipid streaks
 - d) ☐ Local depigmentation
 - e) ☐ Local infiltration of the pericardium
-

353. CM. Tick the complications of pericarditis:

- a) ☐ Myocardial infarction
 - b) ☐ Recurrent episodes of pericardial inflammation
 - c) ☐ Hypertension
 - d) ☐ Cardiac tamponade
 - e) ☐ Constrictive pericarditis
-

354. CM. Indicate the laboratory investigations performed in case of acute pericarditis:

- a) ☐ Osteodensitometry
 - b) ☐ Bone scintigraphy
 - c) ☐ Chest radiography
 - d) ☐ EcoCG
 - e) ☐ ECG
-

355. CS. Choose the most common cause of angina pectoris:

- a) ☐ Bacterial infection
 - b) ☐ Viral infection
 - c) ☐ Bleeding
 - d) ☐ Atherosclerosis
 - e) ☐ Congenital diseases
-

356. CM. Select the painful forms of the heart diseases:

- a) ☐ Acute myocardial infarction
 - b) ☐ Old myocardial infarction
 - c) ☐ Silent angina pectoris
 - d) ☐ Vasospastic angina pectoris
 - e) ☐ Post infarction angina pectoris
-

357. CM. Choose the correct statements about progressive angina:

- a) ☐ Pain is more frequent than in previous days

- b) ☐ Pain is longer duration as in previous days
 - c) ☐ Pain occurring in bigger effort than in previous days
 - d) ☐ Pain is ameliorated at rest
 - e) ☐ Pain occurs at small effort and at rest as in previous days
-

358. CM. Choose correct statements for vasospastic angina:

- a) ☐ Pain is caused by stress
 - b) ☐ Pain is longer than 15 minutes
 - c) ☐ Pain is mandatory is caused by physical exercise
 - d) ☐ Pain is caused by cold temperature
 - e) ☐ Pain occurs in bigger effort than in previous days
-

359. CS. Choose the correct statement about early post-infarction angina:

- a) ☐ Angina appeared after 3 weeks of acute myocardial infarction
 - b) ☐ Angina occurred after 14 weeks of acute myocardial infarction
 - c) ☐ Angina occurred in the 10th day after acute myocardial infarction
 - d) ☐ Angina occurred in the 20th day after acute myocardial infarction
 - e) ☐ Angina occurred in the 30th days after acute myocardial infarction
-

360. CM. Choose the correct statements about late post-infarction angina:

- a) ☐ Angina appeared the first time after 3 weeks acute myocardial infarction
 - b) ☐ Angina occurred the first time after 14 weeks acute myocardial infarction
 - c) ☐ Angina occurred in the 10 days after acute myocardial infarction
 - d) ☐ Angina occurred in the 2 days after acute myocardial infarction
 - e) ☐ Angina occurred in the 30 days after acute myocardial infarction
-

361. CS. Choose the correct statement for angina "de novo":

- a) ☐ Angina appeared the first time last 3 weeks
 - b) ☐ Angina occurred the first time last 14 weeks
 - c) ☐ Angina occurred in the 10th days after acute myocardial infarction
 - d) ☐ Angina occurred in the 20th days after acute myocardial infarction
 - e) ☐ Angina occurred in the 30th days after acute myocardial infarction
-

362. CM. Choose INCORRECT statements for angina "de novo":

- a) ☐ Angina appeared the first time last 3 weeks
 - b) ☐ It is stable angina
 - c) ☐ It is unstable angina
 - d) ☐ Angina occurred after acute myocardial infarction
 - e) ☐ Angina occurred in elderly
-

363. CM. Indicate the correct statements about ischemic heart disease:

- a) ☐ Pathological process is localized in pericardium
 - b) ☐ Process is always acute
 - c) ☐ Pathological process is in the coronary artery system
 - d) ☐ Over 90 % are caused by atherosclerosis
 - e) ☐ Blood circulation in the myocardium is increased
-

364. CS. Indicate EXEPTION about angina pectoris:

- a) ☐ It is transient myocardial ischemia

- b) ☐ It is non-reversible pathological process
 - c) ☐ It is reversible pathological process
 - d) ☐ It is manifested by retrosternal painful crises
 - e) ☐ It is caused by disturbances of coronary circulation
-

365. CM. Choose the correct statements about effort angina pectoris:

- a) ☐ Transient attacks of pain
 - b) ☐ Permanent pain
 - c) ☐ Pain increase by palpation of chest region
 - d) ☐ Caused by imbalance between myocardial oxygen supply and demand
 - e) ☐ Pain relievers at rest or during 5 min after administration of nitroglycerine
-

366. CM. Indicate the characteristic of angina de novo:

- a) ☐ It is a form of stable angina
 - b) ☐ It is clinical variant of myocardial infarction
 - c) ☐ It is present one month from the time of the first attack
 - d) ☐ Painful syndrome is more intense
 - e) ☐ It is a form unstable angina
-

367. CS. Indicate with what is related functional class of effort angina:

- a) ☐ Patient age
 - b) ☐ Disease duration
 - c) ☐ Physical activity tolerance
 - d) ☐ Treatment given
 - e) ☐ Smoking
-

368. CS. Select what defined increasing frequency, intensity and duration of angina attacks:

- a) ☐ Silent angina pectoris
 - b) ☐ Unstable angina pectoris
 - c) ☐ Vasospastic angina pectoris
 - d) ☐ Effort angina de novo
 - e) ☐ Stable effort angina
-

369. CS. Indicate what form of angina is caused by coronary spasm:

- a) ☐ Effort angina
 - b) ☐ De novo effort angina
 - c) ☐ Vasospastic angina pectoris (Prinzmetal)
 - d) ☐ Worsening angina
 - e) ☐ Silent angina
-

370. CM. Select the modifiable risk factors for ischemic heart disease:

- a) ☐ Age
 - b) ☐ Smoking
 - c) ☐ Hypertension
 - d) ☐ Family history
 - e) ☐ Obesity
-

371. CM. Select the non-modifiable risk factors for ischemic heart disease:

- a) ☐ Lack of physical activity

- b) ☐ Smoking
 - c) ☐ Age
 - d) ☐ Family history
 - e) ☐ Diet high in saturated fats
-

372. CS. Indicate which type of dyslipidemia (by Fredrickson) is associated strongly with coronary atherosclerosis:

- a) ☐ Type I
 - b) ☐ Type II and III
 - c) ☐ Type I
 - d) ☐ Type I and IV
 - e) ☐ Type III
-

373. CS. Choose the III functional class of stable angina according Canadian Cardiovascular Society classification:

- a) ☐ Slight limitation, with angina only during vigorous physical activity
 - b) ☐ Moderate limitation, symptoms with everyday living activities
 - c) ☐ Angina only during strenuous or prolonged physical activity
 - d) ☐ Inability to perform any activity without angina or angina at rest, severe limitation
 - e) ☐ Accesses are long- up to 30 min
-

374. CM. Select the characteristics of microvascular angina:

- a) ☐ Caused by dysfunction of small coronary arteries and arterioles
 - b) ☐ Caused by infection
 - c) ☐ Cardiac catheterization show normal or minimal atherosclerosis of coronary arteries
 - d) ☐ Caused by vascular spasm
 - e) ☐ May be caused by systemic collagen vascular diseases
-

375. CS. Indicate the endothelial factor with most powerful vasoconstrictor effect:

- a) ☐ Prostacycline
 - b) ☐ Endotheline
 - c) ☐ Angiotensine II
 - d) ☐ Nitrous oxide
 - e) ☐ Thromboplastic
-

376. CM. Mention the factors with procoagulant action responsible in the pathogenesis of ischemic heart diseases:

- a) ☐ Tissue thromboplastin
 - b) ☐ Willebrand factor
 - c) ☐ Endogen heparin
 - d) ☐ Platelet activating factor
 - e) ☐ Collagen formation
-

377. CS. Indicate the ECG sign of myocardial ischemia:

- a) ☐ QRS deflection
- b) ☐ Horizontal or down-sloping ST segment depression
- c) ☐ PQ interval shortening
- d) ☐ P wave amplitude decrease
- e) ☐ ST segment elevation

378. CM. Choose the indication for exercise stress testing:

- a) ☐ To appreciate patient's quality of life
 - b) ☐ To classify functional class of angina pectoris
 - c) ☐ To confirm diagnosis of angina pectoris
 - d) ☐ To diagnose the myocarditis
 - e) ☐ To diagnose acute myocardial infarction
-

379. CS. Indicate the method for evaluation of the anatomy of the coronary artery tree:

- a) ☐ Exercise stress testing
 - b) ☐ ECG at rest
 - c) ☐ Coronary angiography
 - d) ☐ Holter ECG monitoring
 - e) ☐ Echocardiography
-

380. CM. Choose what information offers echocardiography exam:

- a) ☐ Chambers diameters
 - b) ☐ Determining the number of extrasystoles
 - c) ☐ Pericardium state
 - d) ☐ Assessment of interventricular septum thickness
 - e) ☐ Cusps state
-

381. CS. Mention the method of investigation with determines the indications for angioplasty and aorta-coronary bypass:

- a) ☐ Holter monitoring
 - b) ☐ Exercise stress testing
 - c) ☐ Myocardial scintigraphy
 - d) ☐ Echocardiography exam
 - e) ☐ Coronary angiography
-

382. CM. Select groups of anti-angina drugs:

- a) ☐ diuretics
 - b) ☐ nitrates
 - c) ☐ Ca channel blockers
 - d) ☐ statins
 - e) ☐ beta blockers
-

383. CS. Select the most common side effect of nitrates:

- a) ☐ Vertigo
 - b) ☐ Sleepiness
 - c) ☐ Abdominal pains
 - d) ☐ Headache
 - e) ☐ Swelling on legs
-

384. CM. Select the contraindications for administration of β -blockers:

- a) ☐ Sinus tachycardia
- b) ☐ Sinus bradycardia
- c) ☐ Complete AV block
- d) ☐ Hypertension

e) ☐ Hypotension

385. CM. Select the drugs from calcium channel blockers group:

- a) ☐ Enalapril
 - b) ☐ Amlodipin
 - c) ☐ Diltiazem
 - d) ☐ Metoprolol
 - e) ☐ Verapamil
-

386. CS. Select the primary first-choice antiplatelet drug used in ischemic heart disease:

- a) ☐ Ticlopidine
 - b) ☐ Dipyridamole
 - c) ☐ Pentoxifylline
 - d) ☐ Acetilsalicylic acid
 - e) ☐ Nicotinic acid
-

387. CS. Indicate from what group of drug is simvastatin:

- a) ☐ Antiplatelet
 - b) ☐ Lowering cholesterol
 - c) ☐ Metabolic
 - d) ☐ Hypotensive
 - e) ☐ Vasodilators
-

388. CM. Indicate the correct statements about acute myocardial infarction:

- a) ☐ It is myocardial necrosis
 - b) ☐ It is a process caused by occlusion of a coronary artery
 - c) ☐ It is one of the most common causes of mortality in the middle age
 - d) ☐ Pathological process is reversible in 80-90 % of cases
 - e) ☐ It is inflammation of myocardium
-

389. CS. Indicate the localization of myocardial infarction in right coronary artery occlusion:

- a) ☐ Anterior
 - b) ☐ Antero- septal
 - c) ☐ Inferior
 - d) ☐ Extended anterior
 - e) ☐ Apical
-

390. CS. Select the main clinical feature of acute myocardial infarction:

- a) ☐ Dizziness
 - b) ☐ Retrosternal pain lasting more than 20 minutes
 - c) ☐ Vomiting
 - d) ☐ Fatigue
 - e) ☐ Chest pain lasting 10 minutes
-

391. CS. Indicate the changes of heart size detected by percussion in acute myocardial infarction:

- a) ☐ Deviated to the right
- b) ☐ Usually normal or a little deviated to the left
- c) ☐ Always is normal
- d) ☐ Normal or a little deviated to the right

e) ☐ Normal or a little deviated to the left

392. CS. Indicate the correct level of blood pressure in acute myocardial infarction with cardiogenic shock:

- a) ☐ Elevated
 - b) ☐ Various from case to case
 - c) ☐ Obviously low
 - d) ☐ Normal
 - e) ☐ Obviously increased
-

393. CS. The formation of pathological Q waves on ECG formation in acute myocardial infarction reflects the presence of the:

- a) ☐ area of necrosis
 - b) ☐ ischemic area
 - c) ☐ lesion area
 - d) ☐ parietal thrombus
 - e) ☐ left ventricle aneurysm
-

394. CS. Mention the process that ST segment elevation shows in acute myocardial infarction:

- a) ☐ Area of necrosis
 - b) ☐ Ischemic area
 - c) ☐ Damage area
 - d) ☐ Parietal thrombus
 - e) ☐ Cardiogenic shock
-

395. CM. Indicate the correct statements about initial phase of acute myocardial infarction:

- a) ☐ Lasts several hours
 - b) ☐ Lasts several weeks
 - c) ☐ Elevation of ST segment
 - d) ☐ Izoelectrical ST segment
 - e) ☐ Presence of pathological Q wave
-

396. CM. Select the earliest recognized signs of ST elevation acute myocardial infarction on ECG:

- a) ☐ Peaked T waves
 - b) ☐ ST segment depression
 - c) ☐ ST segment elevation
 - d) ☐ ST segment returns to isoline
 - e) ☐ T wave stabilization
-

397. CS. Choose the leads of direct ECG signs in anteroseptal myocardial infarction:

- a) ☐ V3 -V4
 - b) ☐ V1-V3
 - c) ☐ V1-V4
 - d) ☐ II, III, AVF
 - e) ☐ V 5-V6, I, AVL
-

398. CS. Choose the leads of direct ECG signs in inferior myocardial infarction:

- a) ☐ V3 -V4

- b) ☐ V1-V2
 - c) ☐ V1-V4
 - d) ☐ II, III, AVF
 - e) ☐ V5-V6, I, AVL
-

399. CM. Select criteria of definition in acute myocardial infarction according Third Universal Definition:

- a) ☐ Detection of rise of biomarker values with symptoms of ischemia
 - b) ☐ Detection of rise of biomarker values with new significant ST-T changes or new LBBB
 - c) ☐ Detection of rise of biomarker values with PQ changes
 - d) ☐ Detection of rise of biomarker values with imaging evidence of new loss of viable myocardium
 - e) ☐ Detection of rise of biomarker values with syncope
-

400. CM. Select the ECG signs for acute myocardial infarction:

- a) ☐ T wave inversion
 - b) ☐ Development of Q waves in the ECG
 - c) ☐ Appearance of complete SA block
 - d) ☐ Depression of ST segment
 - e) ☐ Elevation of ST segment lasting more than 24 hours
-

401. CS. Indicate the laboratory changes included in diagnosis of acute myocardial infarction:

- a) ☐ C-reactive protein increase
 - b) ☐ Dyslipidemia
 - c) ☐ Rise cardiac biomarkers
 - d) ☐ Increased ESR
 - e) ☐ Leucocytoses
-

402. CS. Indicate the criteria of differential diagnosis of acute myocardial infarction and unstable angina pectoris:

- a) ☐ Character of pain
 - b) ☐ Time of angina syndrome
 - c) ☐ Increasing of cardiac troponin
 - d) ☐ Effect of nitroglycerin administration
 - e) ☐ Blood pressure
-

403. CM. Indicate the criteria to differentiate of acute pericarditis with the acute myocardial infarction:

- a) ☐ Increasing of pain to deep breathing
 - b) ☐ Appearance of pathological Q wave
 - c) ☐ Increasing of cardiac troponin
 - d) ☐ ST segment elevation is consistent in all derivations
 - e) ☐ ST segment elevation should be found in two contiguous leads
-

404. CM. Choose the mechanical complications of acute myocardial infarction:

- a) ☐ Dressler syndrome
- b) ☐ Rupture of the heart wall
- c) ☐ Left ventricle aneurysm
- d) ☐ Cardiogenic shock

e) ☐ Ventricular arrhythmias

405. CS. Indicate the localization of acute myocardial infarction complicated more frequently by AV block:

- a) ☐ Inferior
 - b) ☐ Anterior
 - c) ☐ Lateral
 - d) ☐ Septal
 - e) ☐ Anteroseptal
-

406. CS. Mention what is involved in post infarction Dressler syndrome:

- a) ☐ Myocardium
 - b) ☐ Pericardium
 - c) ☐ Endocardium
 - d) ☐ Mediastinum
 - e) ☐ Vessels
-

407. CM. Indicate the first emergency measures recommended in acute myocardial infarction:

- a) ☐ Sublingual nitroglycerin
 - b) ☐ Aspirin 250-500 mg
 - c) ☐ Antibiotics
 - d) ☐ Amiodaron
 - e) ☐ Oxygen
-

408. CM. Select what is included in reperfusion treatment of acute myocardial infarction:

- a) ☐ Thrombolytic drugs
 - b) ☐ Antiplatelet
 - c) ☐ Anticoagulants
 - d) ☐ Coronary angioplasty
 - e) ☐ ACE inhibitors
-

409. CS. Indicate the dose of intravenous bolus of unfractionated heparin recommended in acute myocardial infarction:

- a) ☐ 12 U/kg
 - b) ☐ 60 U/kg
 - c) ☐ 100 U/kg
 - d) ☐ 25 U/kg
 - e) ☐ Decision of the physician
-

410. CM. Select the drug from thrombolytic group recommended in acute myocardial infarction:

- a) ☐ Heparin
 - b) ☐ Streptokinase
 - c) ☐ Alteplase
 - d) ☐ Aspirin
 - e) ☐ Reteplase
-

411. CM. Indicate what included secondary prevention of acute myocardial infarction:

- a) ☐ Statins
- b) ☐ Antiplatelet therapy

- c) ☐ β -blockers
 - d) ☐ Anticoagulants
 - e) ☐ Diuretics
-

412. CS. Indicate what represents systemic blood pressure:

- a) ☐ The product between cardiac output and peripheral resistance
 - b) ☐ The product between heart rate and preload
 - c) ☐ Is the product between intrinsic myocardial contractility and preload
 - d) ☐ The product between heart rhythm and preload
 - e) ☐ The product between heart valve competence and post load
-

413. CM. Indicate the determinants of cardiac output:

- a) ☐ Intrinsic myocardial contractility
 - b) ☐ Frequency and heart rate
 - c) ☐ Preload
 - d) ☐ Activity of the autonomic nervous system
 - e) ☐ Activity of the central nervous system
-

414. CM. Select what determine vascular resistance:

- a) ☐ Blood viscosity
 - b) ☐ The length of the arterial segment
 - c) ☐ Hyper insulinemia
 - d) ☐ Renal retention of water and salt
 - e) ☐ Vascular lumen
-

415. CS. Indicate the sign of hypertensive vascular remodeling:

- a) ☐ Vasoconstriction
 - b) ☐ Increased arterial stiffness
 - c) ☐ Increasing the mean thickness relative to the diameter of the vascular lumen
 - d) ☐ Reengaged smooth muscle cells
 - e) ☐ Vascular smooth muscle hypertrophy
-

416. CS. Indicate the value of intima-media index as subclinical target organs involvement in hypertension:

- a) ☐ > 0.5 mm
 - b) ☐ > 0.6 mm
 - c) ☐ > 0.7 mm
 - d) ☐ > 0.8 mm
 - e) ☐ > 0.9 mm
-

417. CM. Indicate the values of ankle-arm index as subclinical damage of vessels in hypertension:

- a) ☐ > 1.3
 - b) ☐ < 0.12
 - c) ☐ < 0.11
 - d) ☐ < 0.10
 - e) ☐ < 0.9
-

418. CM. Select the criteria for subclinical kidney damage in hypertension:

- a) ☐ Decreasing of glomerular filtration rate $< 60 \text{ ml/min/1.73 m}^2$
 - b) ☐ Decreasing of creatinine clearance $< 60 \text{ ml/min}$
 - c) ☐ Decreasing of glomerular filtration rate $> 80 \text{ ml/min/1.73 m}^2$
 - d) ☐ Decreasing of creatinine clearance $> 80 \text{ ml/min}$
 - e) ☐ Micro albuminuria 30 - 300 mg/24h
-

419. CS. Indicate the velocity of the carotid-femoral pulse in subclinical organ damage in hypertension:

- a) ☐ $> 8 \text{ m/s}$
 - b) ☐ $> 9 \text{ m/s}$
 - c) ☐ $> 10 \text{ m/s}$
 - d) ☐ $> 11 \text{ m/s}$
 - e) ☐ $> 12 \text{ m/s}$
-

420. CS. Choose the diet recommended in hypertension:

- a) ☐ Potassium-rich food
 - b) ☐ Magnesium-rich food
 - c) ☐ Calcium-rich food
 - d) ☐ Iron-rich food
 - e) ☐ Sodium-rich food
-

421. CS. Indicate NOT recommended combination of drugs in patients with metabolic syndrome:

- a) ☐ Beta blocker and thiazide diuretics
 - b) ☐ Calcium channel blocker and conversion enzyme inhibitors
 - c) ☐ Calcium channel blocker and angiotensin receptor antagonist
 - d) ☐ Calcium channel blocker and thiazide diuretic
 - e) ☐ Beta blocker and calcium channel blocker
-

422. CM. Select the drugs recommended in isolated systolic hypertension in the elderly:

- a) ☐ Diuretics
 - b) ☐ Calcium channel blockers
 - c) ☐ Alpha-1 blockers
 - d) ☐ Alpha-2 agonists with central action
 - e) ☐ Direct vasodilators
-

423. CS. Indicate the groups of drugs delay the occurrence of nephropathy in hypertension with diabetes:

- a) ☐ Beta blockers
 - b) ☐ Thiazide diuretics
 - c) ☐ Diuretics that save potassium
 - d) ☐ Aldosterone Receptor Antagonists
 - e) ☐ Conversion enzyme inhibitors
-

424. CM. Indicate the drugs recommended in high blood pressure in pregnancy:

- a) ☐ Metildopa
- b) ☐ Conversion enzyme inhibitors
- c) ☐ Sartans
- d) ☐ Amiodarone

e) ☐ Calcium channel blockers

425. CS. Indicate the elective drug used in hypertension with aortic dissection:

- a) ☐ Captopril
 - b) ☐ Enalapril
 - c) ☐ Lisinopril
 - d) ☐ Ramipril
 - e) ☐ Nitroprusside of sodium
-

426. CM. Indicate the mechanism of increasing blood pressure by angiotensin II:

- a) ☐ Stimulation of γ -aminobutyric acid
 - b) ☐ Stimulation of aldosterone secretion
 - c) ☐ Increasing central sympathetic tone
 - d) ☐ Facilitating the release of noradrenaline
 - e) ☐ Vasoconstriction
-

427. CS. Indicate the antiplatelet dose of acetylsalicylic acid:

- a) ☐ 25-50 mg/day
 - b) ☐ 50-65 mg/day
 - c) ☐ 75-100 mg/day
 - d) ☐ 110-150 mg/day
 - e) ☐ 325 mg/day
-

428. CS. Indicate the antiplatelet mechanism of acetylsalicylic acid:

- a) ☐ Inhibiting of hepatic cytochrome oxidases
 - b) ☐ Inhibiting of serotonergic action
 - c) ☐ Inhibiting of H1 receptors
 - d) ☐ Inhibiting of H2 receptors
 - e) ☐ Inhibiting synthesis of thromboxane A2
-

429. CS. Mention the clinical characteristic of the I stage of hypertension:

- a) ☐ Ventricular hypertrophy
 - b) ☐ Generalized or local narrowing of the retinal artery
 - c) ☐ Proteinuria and/or mild increases in serum creatinine
 - d) ☐ Lack of signs of damage of the target organs
 - e) ☐ Atherosclerotic plaques demonstrated angiographically
-

430. CS. Indicate the cause of "Salus-Gunn"/cross sign in hypertension:

- a) ☐ Linear or oval bleeding in the retina
 - b) ☐ Retinal edema
 - c) ☐ Diffuse edema of the optic nerve papilla
 - d) ☐ Local spasm or generalized narrowing of the retinal arteries
 - e) ☐ Local compression of the veins by the twisted arteries in the place of their crossing
-

431. CS. Indicate what show the cross sign or "Salus-Gunn" in hypertensive patients:

- a) ☐ Short-term hypertension
- b) ☐ Long-term hypertension
- c) ☐ Macular hemorrhage
- d) ☐ Marked papillary edema

e) ☐ Foggy view

432. CM. Mention the clinical characteristics of the II stage of hypertension:

- a) ☐ Left ventricular hypertrophy
 - b) ☐ Generalized or local narrowing of the retinal artery
 - c) ☐ Stroke
 - d) ☐ Moderate proteinuria and/or mild increases in plasma creatinine
 - e) ☐ Atherosclerotic plaques demonstrated angiographically or ultrasonographically
-

433. CS. Indicate what reflects the "gallop rhythm" by auscultation in hypertensive patients:

- a) ☐ Atherosclerotic lesions of mesenteric arteries
 - b) ☐ Affected ventricular compliance
 - c) ☐ Arterial lesions that occur in systemic vasculitis
 - d) ☐ Malignant hypertension
 - e) ☐ Reflects kidney damage
-

434. CS. Indicate the value of isolated systolic hypertension:

- a) ☐ Systolic blood pressure 130 - 139, diastolic 85 - 89 mmHg
 - b) ☐ Systolic blood pressure ≥ 180 , diastolic ≥ 110 mmHg
 - c) ☐ Systolic blood pressure ≥ 140 , diastolic < 90 mmHg
 - d) ☐ Systolic blood pressure 160 - 179, diastolic 100 - 109 mmHg
 - e) ☐ Systolic blood pressure 140 - 159, diastolic 90 - 99 mmHg
-

435. CS. Mention what indicate the marked jugular turgescence in patients with hypertension:

- a) ☐ Aortic Coarctation
 - b) ☐ Truncular obesity
 - c) ☐ Biventricular serious decompensation
 - d) ☐ Cushing's syndrome
 - e) ☐ Superficial thrombophlebitis
-

436. CM. Choose the typical symptoms in hypertension:

- a) ☐ Headache
 - b) ☐ Diarrhea
 - c) ☐ Neuropsychic manifestations (irritability, anxiety, asthenia)
 - d) ☐ Visual and auditory disorders (blurred vision, scotomas, tinnitus)
 - e) ☐ Constipation
-

437. CS. Mention what signals the pulse asymmetry at the upper limbs in hypertension:

- a) ☐ Hypertensive crisis
 - b) ☐ Aortic dissection
 - c) ☐ Obesity
 - d) ☐ Asthenic personality
 - e) ☐ Cerebrovascular damage
-

438. CS. Indicate the II degree (moderate) of hypertension:

- a) ☐ Systolic blood pressure ≥ 140 , diastolic < 90 mmHg
- b) ☐ Systolic blood pressure 160-179, diastolic 100 - 109 mmHg
- c) ☐ Systolic blood pressure 130-199, diastolic 85 - 89 mmHg
- d) ☐ Systolic blood pressure 140-159, diastolic 90 - 99 mmHg

e) ☐ Systolic blood pressure ≥ 180 , diastolic ≥ 110 mmHg

439. CS. Indicate the III degree (severe) hypertension:

- a) ☐ Systolic blood pressure ≥ 140 , diastolic < 90 mmHg
 - b) ☐ Systolic blood pressure 160-179, diastolic 100-109 mmHg
 - c) ☐ Systolic blood pressure 130-199, diastolic 85-89 mmHg
 - d) ☐ Systolic blood pressure 140-159, diastolic 90-99 mmHg
 - e) ☐ Systolic blood pressure ≥ 180 , diastolic ≥ 110 mmHg
-

440. CM. Indicate the X-ray signs of venous pulmonary congestion in hypertension:

- a) ☐ Emphasis of the lung drawing on the account of the vascular component
 - b) ☐ "Image of 3"
 - c) ☐ Interstitial lung edema
 - d) ☐ Alveolar pulmonary edema
 - e) ☐ Coastal erosion
-

441. CM. Indicate the X-ray signs of aortic coarctation:

- a) ☐ "Image of 3"
 - b) ☐ Emphasis of the lung drawing on the account of the vascular component
 - c) ☐ Interstitial lung edema
 - d) ☐ Alveolar pulmonary edema
 - e) ☐ Coastal erosion
-

442. CM. Mention what included the brain damages in III stage of hypertension:

- a) ☐ Transient ischemic attack
 - b) ☐ The stroke
 - c) ☐ Advanced hypertensive encephalopathy
 - d) ☐ Generalized or local narrowing of the retinal artery
 - e) ☐ Intermittent claudication
-

443. CS. Indicate what suggest diastolic murmur by auscultation at aortic point in hypertension:

- a) ☐ Aortic stenosis
 - b) ☐ Aortic dissection with proximal extension to the aortic valve
 - c) ☐ Impaired cardiac compliance
 - d) ☐ Increase of telediastolic pressure in LV
 - e) ☐ The presence of noise III and IV in heart auscultation
-

444. CM. Choose the characteristics for hypertension in Cushing's syndrome:

- a) ☐ Truncal obesity (androgen redistribution of adipose tissue)
 - b) ☐ "Full moon face"
 - c) ☐ Skin atrophy with manifest vascular drawing
 - d) ☐ Rosacea in the lower abdomen
 - e) ☐ "Livedo reticularis"
-

445. CS. Indicate the ECG sign of the Socolov - Lyon Index in hypertension:

- a) ☐ Increased R wave voltage in all thoracic branches
- b) ☐ $S(V1) + R(V5 \text{ or } V6) \geq 35$ mm
- c) ☐ The T wave is flattened or negative
- d) ☐ Depressed ST segment

e) ☐ Deviation of the heart shaft (AEC) to the left

446. CS. Indicate the I degree (mild) hypertension:

- a) ☐ Systolic blood pressure ≥ 140 mmHg, diastolic blood pressure <90 mmHg
 - b) ☐ Systolic blood pressure 160 - 179 mmHg, diastolic blood pressure 100 - 109 mmHg
 - c) ☐ Systolic blood pressure 130 - 199 mmHg, diastolic blood pressure 85 - 89 mmHg
 - d) ☐ Systolic blood pressure 140 - 159 mmHg, diastolic blood pressure 90 - 99 mmHg
 - e) ☐ Systolic blood pressure ≥ 180 mmHg, diastolic blood pressure ≥ 110 mmHg
-

447. CM. Choose the criteria used to assess cardiovascular risk in patients with hypertension:

- a) ☐ Total cholesterol
 - b) ☐ HDL-cholesterol
 - c) ☐ C-reactive protein
 - d) ☐ Abdominal obesity
 - e) ☐ Smoking
-

448. CM. Indicate the clinical features of hypertensive cardiomyopathy:

- a) ☐ Palpitations
 - b) ☐ Fever
 - c) ☐ Syncope
 - d) ☐ Dyspnea on exertion
 - e) ☐ Deafness
-

449. CM. Mention the ECG characteristics of monomorphic extrasystoles:

- a) ☐ Coupling intervals are different
 - b) ☐ Extrasystoles, in the same deviation, have different shapes
 - c) ☐ Extrasystoles are from the same outbreak
 - d) ☐ Coupling intervals are equal
 - e) ☐ Extrasystoles are from different outbreaks
-

450. CS. Indicate the ECG sign of ventricular extrasystoles:

- a) ☐ Narrow QRS complex
 - b) ☐ Incomplete compensatory pause
 - c) ☐ PQ interval less than 0,12 sec
 - d) ☐ Negative P wave after QRS complex
 - e) ☐ Absence of P wave
-

451. CS. Indicate the ECG sign of the upper atrioventricular extrasystoles:

- a) ☐ P-Q interval more than 0,20 sec
 - b) ☐ Abnormal QRS complex
 - c) ☐ Negative P wave in II, III before QRS complex
 - d) ☐ Negative P wave in DII, DIII after QRS complex
 - e) ☐ Full compensatory pause
-

452. CS. Indicate the ECG sign of the middle atrioventricular extrasystole:

- a) ☐ Abnormal QRS complex
- b) ☐ Negative P wave in II, III after QRS complex
- c) ☐ P waves embedded in QRS complex
- d) ☐ Full compensatory pause

e) ☐ Negative P wave in II, III before QRS complex

453. CS. Indicate the ECG sign of lower atrioventricular extrasystoles:

- a) ☐ Absence of P wave
 - b) ☐ Abnormal QRS complex
 - c) ☐ Full compensatory pause
 - d) ☐ Negative P wave after QRS complex
 - e) ☐ PQ interval more than 0,2 sec
-

454. CM. Select the type of extrasystoles according periodicity:

- a) ☐ Bigeminy
 - b) ☐ Trigeminy
 - c) ☐ Quadrigeminy
 - d) ☐ Monomorphic
 - e) ☐ Polymorphic
-

455. CS. Indicate the mechanism of action of Class I antiarrhythmic drugs:

- a) ☐ Potassium channel blockers
 - b) ☐ Sodium channel blockers
 - c) ☐ Calcium channel blockers
 - d) ☐ β -blockers
 - e) ☐ Potassium channel blockers
-

456. CS. Note the mechanism of action of Class II antiarrhythmic drugs:

- a) ☐ Potassium channel blockers
 - b) ☐ Sodium channel blockers
 - c) ☐ Calcium channel blockers
 - d) ☐ β -blockers
 - e) ☐ Potassium channel blockers
-

457. CM. Note the mechanisms of action of Class III antiarrhythmic drugs:

- a) ☐ Potassium channel blockers
 - b) ☐ Sodium channel blockers
 - c) ☐ Calcium channel blockers
 - d) ☐ β -blockers
 - e) ☐ Potassium channel blockers
-

458. CS. Tick the mechanism of action of class IV antiarrhythmic drugs.

- a) ☐ Potassium channel blockers
 - b) ☐ Sodium channel blockers
 - c) ☐ Calcium channel blockers
 - d) ☐ β -blockers
 - e) ☐ Potassium channel blockers
-

459. CS. Tick the antiarrhythmic drug that acts on the "if" channel:

- a) ☐ Amiodarone
- b) ☐ Sotalol
- c) ☐ Ivabradine
- d) ☐ Metoprolol

e) ☐ Nicorandil

460. CM. Mention the drugs for rate control in patients with chronic atrial fibrillation:

- a) ☐ Amiodarone
- b) ☐ Digoxin
- c) ☐ Bisoprolol
- d) ☐ Warfarin
- e) ☐ Amlodipine

461. CM. Mention the drugs for rhythm control in patients with atrial fibrillation:

- a) ☐ Amiodarone
- b) ☐ Digoxin
- c) ☐ Bisoprolol
- d) ☐ Warfarin
- e) ☐ Amlodipine

462. CS. Choose the method of choice of treatment in patients with recidivant ventricular tachycardia:

- a) ☐ Pacemaker implantation
- b) ☐ Transesophageal stimulation
- c) ☐ Ablation
- d) ☐ Cardiodefibrillator implantation
- e) ☐ Heart transplantation

463. CS. Mention the score used to assess thromboembolic risk in patients with atrial fibrillation:

- a) ☐ EHRA
- b) ☐ SCORE
- c) ☐ VAS
- d) ☐ CHA2DS2-VASC
- e) ☐ Framingham

464. CM. Note the criteria included in the CHA2DS2 score used in patients with atrial fibrillation:

- a) ☐ Hypertension
- b) ☐ Heart failure
- c) ☐ Stroke
- d) ☐ Age more than 65 years
- e) ☐ Peripheral arterial disease

465. CM. Note the criteria included in the CHA2DS2VASC score used in patients with atrial fibrillation:

- a) ☐ Diabetes mellitus
- b) ☐ Heart failure
- c) ☐ Stroke
- d) ☐ Age more than 75 years
- e) ☐ Viral hepatitis

466. CM. Indicate difference between CHA2DS2-VASC and CHADS2 score used in atrial fibrillation:

- a) ☐ Myocardial infarction
 - b) ☐ Heart failure
 - c) ☐ Stroke
 - d) ☐ Age
 - e) ☐ Peripheral arterial disease
-

467. CS. Indicate the correct statement for type bigeminy of extrasystoles

- a) ☐ Each of the 2-nd beat is an extrasystoles
 - b) ☐ Each of the 3-nd beat is an extrasystoles
 - c) ☐ Each of the 4-th beat is a extrasystoles
 - d) ☐ Doublets
 - e) ☐ Triplets
-

468. CS. Choose the correct statement for estrasystolic alloritmia type trigeminy:

- a) ☐ Each of the 2-nd beat is an extrasystoles
 - b) ☐ Each of the 3-nd beat is an extrasystoles
 - c) ☐ Each of the 4-th beat is a extrasystoles
 - d) ☐ Doublets
 - e) ☐ Triplets
-

469. CS. Choose the correct statement for extrasystolic arrhythmia type quadrigeminy:

- a) ☐ Each of the 2-nd beat is an extrasystoles
 - b) ☐ Each of the 3-nd beat is an extrasystoles
 - c) ☐ Each of the 4-th beat is a extrasystoles
 - d) ☐ Doublets
 - e) ☐ Triplets
-

470. CS. Choose the correct statement of three succeeded extrasystoles on ECG:

- a) ☐ Ventricular extrasystoles
 - b) ☐ Supraventricular extrasystoles
 - c) ☐ Trigiminy
 - d) ☐ Doublet
 - e) ☐ Triplet
-

471. CS. Choose the correct statement of two succeeded extrasystoles on ECG:

- a) ☐ Ventricular extrasystoles
 - b) ☐ Supraventricular extrasystoles
 - c) ☐ Trigiminy
 - d) ☐ Doublet
 - e) ☐ Triplet
-

472. CS. Choose the correct statement for the extrasystolic triplets on ECG:

- a) ☐ Each of the 2-nd beat is an extrasystoles
 - b) ☐ Each of the 3-nd beat is an extrasystoles
 - c) ☐ Each of the 4-th beat is a extrasystoles
 - d) ☐ Presence of two succeeded extrasystoles
 - e) ☐ Presence of three succeeded extrasystoles
-

473. CM. Select the chronic forms of ischemic heart disease:

- a) ☐ Sudden death
 - b) ☐ Stable angina pectoris
 - c) ☐ Silent angina pectoris
 - d) ☐ Acute myocardial infarction
 - e) ☐ Unstable angina
-

474. CM. Select the acute forms of ischemic heart disease:

- a) ☐ Sudden cardiac death
 - b) ☐ Stable angina pectoris
 - c) ☐ Silent angina pectoris
 - d) ☐ Acute myocardial infarction
 - e) ☐ Unstable angina
-

475. CM. Select no atherosclerotic causes of ischemic heart disease:

- a) ☐ Vasculitis
 - b) ☐ Acute viral infection
 - c) ☐ Tuberculosis
 - d) ☐ Myocardial bridges
 - e) ☐ Aortic dissection
-

476. CS. Select the correct name of small coronary arteries and arterioles involvement:

- a) ☐ Unstable angina
 - b) ☐ Old myocardial infarction
 - c) ☐ Silent angina pectoris
 - d) ☐ Vasospastic angina pectoris
 - e) ☐ Microvascular angina
-

477. CS. Indicate the myocardial functions which are impairment in angina pectoris:

- a) ☐ Metabolic, mechanical and electrical
 - b) ☐ Metabolic only
 - c) ☐ Mechanical and electrical
 - d) ☐ Metabolic and mechanical
 - e) ☐ Electrical only
-

478. CM. Select the invasive methods of revascularization for patients with ischemic heart diseases:

- a) ☐ Percutaneous intervention procedures
 - b) ☐ Valve replacement
 - c) ☐ Coronary artery bypass graft
 - d) ☐ Myomectomy
 - e) ☐ Ablation
-

479. CM. Indicate the correct statements for unstable angina:

- a) ☐ New onset of ischemic symptoms
 - b) ☐ Recurrence of ischemic symptoms within 4-6 month after an acute myocardial infarction
 - c) ☐ Intensification of previous ischemic symptoms
 - d) ☐ Change in pattern (egg, symptoms at rest)
 - e) ☐ Ischemic symptoms on physical exercise for 3 month
-

480. CM. Indicate the ECG abnormalities in patients with unstable angina:

- a) ☐ Transient ST-segment depression or elevation
 - b) ☐ PQ prolongation
 - c) ☐ T wave inversion
 - d) ☐ Irregular RR interval
 - e) ☐ Absents of QRS complexes
-

481. CM. Indicate the correct statements for unstable angina pectoris:

- a) ☐ Ischemic symptoms are developing in rest with duration more than 10 minutes
 - b) ☐ The age of patient over 60 years
 - c) ☐ Intensification of previous angina pain
 - d) ☐ Myocardial infarction in anamnesis
 - e) ☐ Increasing of the frequency of angina pain attacks
-

482. CS. Choose the method of diagnosis in ST elevation acute myocardial infarction:

- a) ☐ Stress - test echocardiography
 - b) ☐ Assessment of cardiac biomarkers
 - c) ☐ Stress-test ECG
 - d) ☐ Holter monitoring ECG
 - e) ☐ Pulmonary X ray
-

483. CM. Indicate the characteristics for chronic heart failure stage B (ACC/AHA classification):

- a) ☐ Absents of structural cardiac changes
 - b) ☐ Presence of structural cardiac changes
 - c) ☐ Absence of symptoms and signs of heart failure
 - d) ☐ Presence of symptoms and signs of heart failure
 - e) ☐ Presence of symptoms in rest
-

484. CM. Choose the causes of pressure overload of heart failure:

- a) ☐ Hypertension
 - b) ☐ Aortic stenosis
 - c) ☐ Valvular regurgitations
 - d) ☐ Myocardial ischemia
 - e) ☐ Primary cardiomyopathies
-

485. CM. Choose the causes of volume overload of heart failure:

- a) ☐ HTA
 - b) ☐ Intracardiac shunts
 - c) ☐ Arteriovenous fistulas
 - d) ☐ Valvular regurgitations
 - e) ☐ Valvular stenosis
-

486. CM. Choose the causes with contractility involvement in heart failure:

- a) ☐ Myocarditis
 - b) ☐ Endocrine diseases
 - c) ☐ Valvular stenosis
 - d) ☐ Myocardial ischemia
 - e) ☐ Intracardiac shunts
-

487. CM. Choose the mechanism of cardiac adaption in heart failure:

- a) ☐ Frank-Starling mechanism
 - b) ☐ Sympathetic nervous system activation
 - c) ☐ Parasympathetic nervous system activation
 - d) ☐ Reentry mechanism
 - e) ☐ Renin-angiotensin system activation
-

488. CM. Mention the signs of left sided chronic heart failure:

- a) ☐ Peripheral edema
 - b) ☐ Subicteric skin
 - c) ☐ Hepatomegaly
 - d) ☐ Tachicardia
 - e) ☐ Systolic murmur on the apex
-

489. CM. Mention the signs of right sided chronic heart failure:

- a) ☐ Cyanosis
 - b) ☐ Jugular turgescence
 - c) ☐ Moist pulmonary crackles
 - d) ☐ Peripheral edema
 - e) ☐ Hepatomegaly
-

490. CM. Mention the symptoms of right sided chronic heart failure:

- a) ☐ Dyspnea
 - b) ☐ Cough
 - c) ☐ Hemoptysis
 - d) ☐ Hepatalgia
 - e) ☐ Peripheral edema
-

491. CM. Mention the symptoms of left sided chronic heart failure:

- a) ☐ Dyspnea
 - b) ☐ Cough
 - c) ☐ Hepatalgia
 - d) ☐ Bloating
 - e) ☐ Peripheral edema
-

492. CM. Mention the laboratory signs of chronic heart failure:

- a) ☐ Anemia
 - b) ☐ Hyponatremie
 - c) ☐ Hypernatremie
 - d) ☐ Hematocrit increasing
 - e) ☐ Proteinuria
-

493. CM. Choose factors of poor prognostic in heart failure:

- a) ☐ Male
 - b) ☐ Female
 - c) ☐ Ischemic heart disease
 - d) ☐ Hypotension
 - e) ☐ Cachexia
-

494. CS. Indicate the treatment target in cardiogenic shock:

- a) ☐ Cardiac output normalization
 - b) ☐ Normalization of volemia
 - c) ☐ Decreasing of blood pressure
 - d) ☐ Antiaggregation
 - e) ☐ Normalization of pressure in pulmonary artery
-

495. CM. Choose the criteria for diagnosis of isolated right heart failure:

- a) ☐ Hypotension
 - b) ☐ Low cardiac output
 - c) ☐ Normal cardiac output
 - d) ☐ Normal blood pressure
 - e) ☐ High cardiac output
-

496. CS. Indicate the treatment target in isolated right heart failure:

- a) ☐ Normalization of pressure in pulmonary artery
 - b) ☐ Normalization of volemia
 - c) ☐ Increasing of blood pressure
 - d) ☐ Antiaggregation
 - e) ☐ Normalization of cardiac output
-

497. CM. Indicate the inotropic medications recommended for acute heart failure:

- a) ☐ Bisoprolol
 - b) ☐ Dopamine
 - c) ☐ Levosimendan
 - d) ☐ Milrenon
 - e) ☐ Neseritide
-

498. CM. Mention the symptoms caused by hypoperfusion in acute heart failure:

- a) ☐ Fatigue
 - b) ☐ Confusion
 - c) ☐ Cough
 - d) ☐ Syncope
 - e) ☐ Peripheral edema
-

499. CM. Mention the symptoms related by the congestion in acute heart failure:

- a) ☐ Moist pulmonary crackles
 - b) ☐ Polyuria
 - c) ☐ Tachicardia
 - d) ☐ Peripheral edema
 - e) ☐ Syncope
-

500. CM. Choose the causes of cardiogenic shock in acute myocardial infarction:

- a) ☐ Rupture of the papillary muscle
 - b) ☐ Ventricular tachycardia
 - c) ☐ Severe bradycardia
 - d) ☐ Acute hemorrhage after fibrinolysis
 - e) ☐ Supradosage of diuretics
-

501. CS Choose the ECG sign specific for CRBBB

- a. Presence of large R waves in III, aVF, V1, V2
- b. Elongation of PQ interval
- c. Shortening of PQ interval
- d. Presence of large R waves in I, aVL, V5, V6
- e. Presence of large S waves in III, aVF, V1, V2

502. CS Choose the direct indication for cardio stimulator implantation

- a. multiple paroxysms of ventricular fibrillation in variable periods of time
- b. complete AV block
- c. atrial fibrillation
- d. atrial flutter
- e. left bundle branch block

503. CM Choose what is specific for complete AV block

- a. frequently is congenital
- b. syncope is a characteristic complaint
- c. in case of physical effort and stress, the HR rises up to 100 c/min
- d. the escape rhythm frequency do not exceed 40 c/min
- e. almost every time is acquired

504. CM What is the ECG pattern for II nd degree sino-atrial block

- a. periods sinusal pause without P waves
- b. periodic absence of PQRS complex
- c. compensatory complete pauses after PQRST
- d. atrial and ventricular frequent contractions
- e. PQ elongation

505. CM Specific ECG patterns for anterior complete left bundle branch block

- a. type R complexes in I, aVL, V5, V6
- b. EAH extremely left deviated
- c. type S complexes in III, aVF, V1, V2
- d. QRS duration 0.1 – 0.12 seconds

e. junctional rhythm

506. CM Choose the rhythm disturbances that do not induce severe hemodynamics changes

a. 3rd degree AV block

b. 3rd degree SA block

c. 1st degree AV block

d. 1st degree SA block

e. sinus bradycardia

507. CS. Name the causal mechanism of atrioventricular junction tachycardia:

a. impulse conduction disorder through the re-entry mechanism

b. automatic disorder through the trigger mechanism

c. increase in normal automatism

d. insufficiency of normal automatism

e. the parasystolic mechanism

508. CM. Choose medications that is NOT included in the treatment of patients with obstructive hypertrophic cardiomyopathy:

a. cardiac glycosides

b. beta blocker

c. nitrates

d. diuretics

e. antiarrhythmic

509. CM List the surgical methods used in the treatment of patients with significant obstructive hypertrophic cardiomyopathy:

a. partial myectomy

b. septal ablation with alcohol

c. embolization of the first septal

d. implantation of the defibrillator - cardioverter

e. total myoectomy

510. CM Mention the pathologies that can develop a restrictive cardiomyopathy:

a. eosinophilic endomyocardial fibrosis (Löffler syndrome)

b. cardiac amyloidosis

- c. systemic lupus erythematosus
- d. hemochromatosis
- e. irradiated heart damage

511. CM. Select the risk factors for sudden cardiac death:

- a. heredity
- b. hypercatecholamines
- c. alcohol consumption
- d. obesity
- e) social status

512. CM List which of the major factors of sudden cardiac death are:

- a. fever <40%
- b. low vital capacity
- c. complex ventricular rhythm disorders
- d. abnormalities in the neuro-hormonal control of cardiac function
- e. psychosocial factors

513. CM List which of the following conditions can cause sudden cardiac death by non-arrhythmic mechanisms:

- a. electromechanical dissociation
- b. cardiac tamponade
- c. aortic dissection
- d. ventricular tachycardia
- e. asystole

514. CM The following concepts are true about assessing the risk of sudden death:

- a. is performed in 4 stages
- b. in 1 stage the characterization of the causal disease and the associated favoring factors is made.
- c. in the 2nd stage the risk stratification is performed, using invasive and / or non-invasive methods
- d. in the last stage the criteria and markers are established on the basis of which the effectiveness of the treatment will be assessed
- e. is performed in 5 stages

515. CM Select to stratify the risk of sudden death will be assessed:

- a. left ventricular function
- b. the presence and severity of myocardial ischemia
- c. function of both ventricles
- d. the mechanism of ventricular arrhythmias
- e. disorders of neuro-hormonal regulation of cardiac function

516. CM Write down the stress tests in sudden cardiac death:

- a. are invasive tests
- b. useful for stratifying the prognosis of patients
- c. evaluates the functional capacity
- d. identify ventricular arrhythmia
- e. are useful for guiding the therapeutic attitude

517. CM Select to prevent life-threatening arrhythmias and sudden deaths:

- a. is simple
- b. drug therapy may be used
- c. surgical means may be used
- d. defibrillators can be implanted
- e. aims to reduce the risk of sudden death

518. CM Note the prophylaxis of sudden death by drug treatment, administered chronically is done with:

- a. β - blocker
- b. quinidine
- c. amiodarone
- d. flecainide
- e. propafenone

519. CM Select which surgical methods used to prevent sudden cardiac death are:

- a. excision of the left stellate ganglion in patients with sdr. QT prolonged
- b. subendocardial ventriculotomy
- c) aneurysmectomy
- d. aortocoronarian by pass
- e. aortofemoral by pass

520. CM Mention the purpose of cardiovascular recovery:

- a. reducing the risk of sudden death
- b. reduction of infarction
- c. control of cardiac symptoms
- d. waist control
- e. regression of atherosclerosis

521. CM. Note the clinical signs of suspicion of a non-syncope fall:

- a. the presence of post-critical disorientation
- b. tonic-clonic seizures, which begin with access
- c. frequent seizures with multiple somatic charges, without organic damage to the heart
- d. the association of the fall with vertigo
- e. association of fall with dysarthria, diplopia

522. CM Select which factors increase the chance of a rhythm disorder causing syncope?

- a. heart rate too low
- b. heart rate too fast
- c. left ventricular function with normal ejection fraction
- d. left ventricular function with low ejection fraction
- e. ventricular arrhythmia

523. CM To evaluate neurogenic-mediated syncope, the following is performed:

- a. carotid sinus massage
- b. tilt test
- c. long-term ECG monitoring (Holter, implantable devices)
- d. electrophysiological study
- e. echocardiography

524. CM Select which of the following statements is correct for Tilt - the test:

- a. is indicated in the diagnosis of syncope of unidentified genesis
- b. is especially indicated in patients with intact heart
- c. the positive test (loss of consciousness with induction of hypotension and / or bradycardia) is considered a diagnosis for vaso-vagal syncope
- d. positive test (loss of consciousness with induction of hypertension)

e. positive test (loss of consciousness with induction of tachycardia)

525. CM Choose the characteristics of the EKG in manifest mitral regurgitation:

- a. hypertrophy LA
- b. the horizontal axis of the cord or a deviation to the left
- c. hypertrophie LV
- d. atrial fibrillation
- e. RA hypertrophy

526. CM Choose auscultative changes in the heart in mitral stenosis:

- a. clicking noise I at the apex
- b. diminished noise I at the apex
- c. systolic murmur at the apex
- d. diastolic murmur at the apex
- e. mitral valve opening noise

527. CM Choose the correct statements for severe mitral stenosis:

- a. area of the mitral orifice $> 1.5 \text{ cm}^2$
- b. area of mitral orifice $< 1 \text{ cm}^2$
- c. the area of the mitral orifice is 1.4 cm^2
- d. the average pressure in LA is $> 30 \text{ mmHg}$
- e. the average pressure in the LA is 20 mmHg

528. CM Select which pathological conditions can produce a clinical appearance of mitral stenosis:

- a. atrial myxoma
- b. pedicle atrial thrombus
- c. vegetation
- d. right branch block of the Hiss fascicle
- e. left branch block of the Hiss fascicle

529. CM Note the consequences when the area of the mitral orifice falls below 2 cm^2 :

- a. the pressure in the LA decreases
- b. the pressure in the LA increases
- c. dyspnea of varying degrees occurs up to acute pulmonary edema
- d. the pressure in the LA is transmitted into the pulmonary veins

e. the pressure in the atria remains unchanged

530. CM Determine what changes the cardiac output undergoes in mitral stenosis?

- a. in mild and moderate mitral stenosis cardiac output is normal in patients with sinus rhythm at rest
- b. in mild and moderate mitral stenosis cardiac output is increased in patients with resting sinus rhythm
- c. in mild and moderate mitral stenosis the cardiac output is low in patients with sinus rhythm at rest
- d. loss of atrial contraction by installation of atrial fibrillation reduces cardiac output by up to 20%
- e. decreased cardiac output is clinically manifested by cyanosis

531. CM Mention the most common conditions of differential diagnosis in mitral stenosis:

- a. left atrial myxoma.
- b. atrial septal defect
- c. tricuspid stenosis
- d. ischemic heart disease
- e. lung cancer

532. CM Mention the categories of patients who can benefit from the restoration of sinus rhythm in case of mitral stenosis with atrial fibrillation:

- a. when atrial fibrillation occurs in a patient with wide mitral stenosis and the LA is less than 50 mm
- b. when atrial fibrillation greatly aggravates clinical phenomena and patients cannot be operated on
- c. when fibrillation persists after correction of the lesion
- d. when atrial fibrillation occurs after the correction of the lesion
- e. when atrial fibrillation occurs in a patient with wide mitral stenosis and LA is greater than 50 mm

533. CM Specify other names for mitral valve prolapse:

- a) Barlow syndrome
- b. telesystolic murmur click syndrome
- c. ballon mitral valve syndrome
- d. parachute mitral valve
- e. Eissenmeiger syndrome

534. CM List the characteristics of mitral valve prolapse:

- a. occurs more frequently in women
- b. occurs more frequently in men

- c. the most affected age is 20-30 years
- d. the most affected age is 50-60 years
- e. symptoms of the autonomic nervous system predominate

535. CM Note the pathogenic changes in aortic stenosis:

- a. decrease in cardiac minute-volume
- b. decreasing the length of LV systole
- c. thickening and shortening chordae tendineae
- d. increasing the pressure in the LV cavity
- e. concentric hypertrophy of the LV

536. CM Mention the objective signs characteristic of patients with aortic insufficiency:

- a. systolic vibration
- b. the sign "Alfred de Musset"
- c. pulsation of the pupils
- d. the "dance" of the carotids
- e. the Quincke sign

537. CM Select which complications are characteristic of patients with aortic insufficiency:

- a. infectious endocarditis
- b. atrial fibrillation
- c. ventricular extrasystoles
- d. paroxysmal ventricular tachycardia
- e. epistaxis

538. CM Choose the pressure gradient in aortic stenosis depends on:

- a. the blood flow through the valve
- b. valve surface
- c. the contraction force of VS
- d. peripheral resistance
- e. the contraction force of the LA

539. CM Choose the pressure gradient in aortic stenosis depends on:

- a. the blood flow through the valve
- b. valve surface

- c. the contraction force of VS
- d. peripheral resistance
- e. the contraction force of the LA

540. CM Specify echocardiographic and Doppler criteria to assess the severity of severe aortic stenosis:

- a. valve area $< 0.75 \text{ cm}^2$
- b. instantaneous speed $> 4.5 \text{ m / s}$
- c. peak gradient $> 80 \text{ mmHg}$
- d) average gradient $> 45 \text{ mmHg}$
- e. valve area $> 0.75 \text{ cm}^2$

541. CM Choose the complications characteristic of patients with tricuspid regurgitation:

- a. infectious endocarditis
- b. atrial fibrillation
- c. liver cirrhosis
- d. thrombosis
- e. epistaxis

542. Choose the specific features of severe tricuspid stenosis:

- a. the area of the tricuspid orifice is 1.2 cm^2
- b. the area of the tricuspid orifice is 2 cm^2
- c. the pressure gradient is 10 mmHg
- d. the pressure gradient is 5 mmHg
- e. the pressure gradient is 2 mmHg

543. CM Choose pathologies that can cause tricuspid stenosis:

- a. rheumatic fever
- b. infectious endocarditis
- c. carcinoid syndrome
- d. aortic coarctation
- e) endomyocardiofibrosis

544. CM Choose which of the following statements is correct for the LDL cholesterol fraction:

- a. the main form of transport of cholesterol in plasma, 60-70% of total plasma cholesterol

- b. constitutes 20-30% of the total cholesterol
- c. contains only one type of apoprotein (apo B-100)
- d. is atherogenic and proportionally correlated with the risk of cardiovascular events, independent of total cholesterol levels
- e. LDL particles function as a carrier of cholesterol from the liver to the arterial wall, cross the endothelial barrier and are absorbed by the macrophages of the intima ("foam cells")

545. CM Name how major risk factors have not been defined by the WHO:

- a. high prevalence in the population
- b. low prevalence in the population
- c. significant independent impact on the risk of ischemic coronary heart disease or stroke
- d. their treatment or control leads to a decrease in risk
- e. their treatment or control leads to an acceleration of the risk

546. CM Indicate which of the following statements are incorrect for dyslipidemia:

- a. is one of the factors with high prevalence and susceptibility to change
- b. includes a series of disorders of lipid metabolism with potential for induction and maintenance of atherosclerotic phenomenon
- c. refers to cardiovascular mortality and total cardiovascular events
- d. a better short- or long-term prognosis in overweight or obese patients
- e. is one of the factors with low prevalence and susceptibility to change

Correct answer: c, d, e

547. CM Name the causes of the abnormal automatism:

- a. extension of myocardial fibers
- b. changes in electrolyte balance
- c. the action of catecholamine's
- d. acute myocardial infarction
- e. 90 mV membrane potential

548. CM Mention what the Morgani-Adams-Stokes syndrome manifests in the "classic" version:

- a. tachyarrhythmia
- b. sudden onset
- c. syncopal condition with pronounced pallor
- d. reactive hyperemia after exiting the crisis

e. transient character

549. CM Mention the incorrect statements regarding the I st degree AV block

a. maintaining the conduction of all atrial impulses to the ventricles

b. PQ or PR range greater than 0.2 mm / s

c. is registered in the elderly

d. PQ or PR interval below 0.12 sec.

e. gradual elongation of the PQ interval

550. CM Mention the incorrect statements regarding the 2nd degree atrioventricular block, type I (Mobitz I):

a. the absence of the Samoilov-Wenckebach periods

b. the presence of the Samoilov-Wenckebach periods

c. omission of 2, 3, 4 ventricular contractions while maintaining atrial contraction

d) irregular RR intervals

e. regular RR intervals