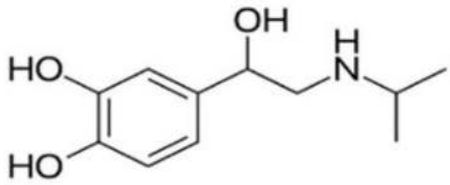
GPAT - 2024

COMPLETE QUESTION PAPER WITH ANSWER KEY

Section : A

Q.1 The below structure represent the drug:



A. Salbutamol

B. Amphetamine

C. Norepinephrine

D. Isoprenaline

Q.2 The key intermediate for the biosynthesis of C6-C3 units is:

A. Pyruvic acid

B. Dehydroquinic acid

C. Shikimic acid

D. Mevalonic acid

Q.3 According to the SAR of Chloroquine electron:

A. Donating group at 6^{th} position of the quinoline ring is important for the inhibition of hemozoin formation

B. Withdrawing group at 6^{th} position of the quinoline ring is important for the inhibition of hemozoin formation

C. Donating group at 7^{th} position of the quinoline ring is important for the inhibition of hemozoin formation

D. Withdrawing group at 7^{th} position of the quinoline ring is important for the inhibition of hemozoin formation

Q.4 Coating of Eudragit NE40D on tablets is done to prepare:

A. Buccal tablets

B. Sublingual tablets

C. CR tablets

D. IR tablets

Q.5 The dried juice of Pterocarpus marsupium belongs to the family:

A. Rosaceae

B. Asteraceae

C. Liliaceae

D. Leguminosae

Q.6 Examples of BCS class III drugs are:

A. Taxol, Ellagic acid, Aspirin

B. Chloroquine, Diltiazem, Metoprolol

C. Acyclovir, Atenolol, Captopril

D. Aspirin, Paracetamol, Amoxycillin

Q.7 Chikusetsu saponin is present in:

A. Senega

B. Ginseng

C. Quillia

D. Liquorice

Q.8 Schedule T of Drugs and Cosmetics Rules, 1945 deals with:

A. GMP for Homeopathy medicine

B. GMP for ASU drugs

C. GLP and requirement of premises and equipments

D. GMP for Pharmaceutical product

Q.9 Which one of the following enzymes comprises a major part of enzyme-linked receptors:

A. Receptor Serine Phosphatase

B. Receptor Tyrosine Kinase

C. Receptor Histidine Kinase

D. Receptor Threonine Phosphatase

Q.10 Spin Quantum number of ^{13}C NMR is:

A. 1/4

B. 3/2

C. 1/3

D. 1/2

Q.11 During compression of tablets, dwell time is:

A. Time it takes for the punches to eject tablet under the primary compression rollers

B. Time it takes for the punches to eject the tablets

C. Time it takes for the punches to stop moving vertically and to achieve maximum penetration in the die under the primary compression rollers

D. Time it takes for the punches to punch tablet

Q.12 The starting raw material for synthesis of lignocaine is:

A. 4-Chlorobenzyl cyanide

B. 2,6-Xylidine

C. p-Nitroacetophenone

D. 4-Amino-3-Nitroanisole

Q.13 The Wilson's disease is a rare inherited disorder due to accumulation in brain, liver and other vital organs of:

A. Iodine

B. Calcium

C. Iron

D. Copper

Q.14 Which of the following is a meta directing group:

A. $NHCH_3$

B. CF_3

C. F

D. NH_2

Q.15 Rancidity of oil is detected by:

A. Iodine value

B. Saponification value

C. Peroxide value

D. Acid value

Q.16 Which of the following is not a method for solubility enhancement:

A. Crystallization

B. Co-solvency

C. Hydrotropy

D. Salt formation

Q.17 The bloom strength is directly proportional to:

A. Density

B. Viscosity

C. Measure of the strength and stiffness of the gelatin

D. Molecular weight

Q.18 Famotidine contains:

A. Pyrrole ring

B. Furane ring

C. Imidazole ring

D. Thiazole ring

Q.19 What is the best time to collect the medicinal bark material:

A. After the leaf falls

B. Post flowering

C. Pre flowering

D. Before the leaf falls

Q.20 Which antibiotic undergoes light catalysed autoxidation:

A. Sugar derived antibiotics

B. Polyene antibiotics

C. Macrolide antibiotics

D. Beta lactum antibiotics

Q.21 Size of a pilot plant batch is:

A. 1/10th of marketing batch

B. 1/5th of marketing batch

C. 1/5th of production batch

D. 1/10th of production batch

Q.22 Which of the following steps are not involved in gravimetric analysis:

A. Filtration

B. Precipitation

C. Indicator

D. Digestion

Q.23 Nitrostat® is an example of:

A. Effervescent tablet

B. Bolus tablet

C. CR tablet

D. Sublingual tablet

Q.24 The rate limiting step for the absorption of controlled release tablet is the:

A. Dissolution of the drug

B. Excretion of the drug

C. Metabolism of the drug

D. Distribution of the drug

Q.25 Core tablet coated with cellulose acetate phthalate has been administered to a patient. Where do you expect the drug to be released:

A. Stomach

B. Intestine

C. Liver

D. Oral cavity

Section : B

Q.1 The most suitable test for digitoxose is:

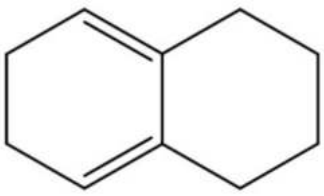
A. Dragendrof's test

B. Hager's test

C. Keller-Kiliani

D. Baljet test

Q.2 Calculate the λ_{max} of the following molecule:



A. 273 nm

B. 283 nm

C. 244 nm

D. 234 nm

Q.3 Which of the following is Phase-II metabolism reaction:

A. Acetylation

B. Oxidation

C. Reduction

D. Hydrolysis

Q.4 Based on the rheological behavior of fluid, all of the following shows time independent property, except:

A. Anti-thixotropic

B. Non-newtonian

C. Plastic

D. Pseudoplastic

Q.5 An elixir contains 47%v/v alcohol, what is the proof spirit according to USP:

A. 82%

B. 70%

C. 63%

D. 91%

Q.6 The IUPAC name of tartaric acid is:

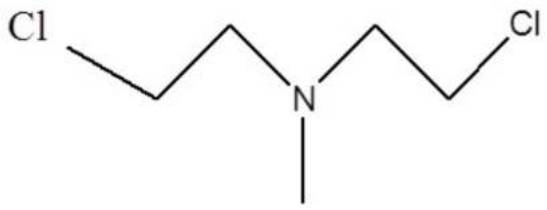
A. 2,3-dihydroxybutane-1,4-dioic acid

B. 2,3-dihydroxy-4-butanoic acid

C. 1,3-dihydroxybutane-1,4-dioic acid

D. 2,2-dihydroxy-4-butanoic acid

Q.7 Name the following drug molecule:



A. 6-Mercaptopurine

B. Chlorambucil

C. Mechlorethamine

D. Vincristine

Q.8 Which of the following protective colloids has high gold number:

A. Tragacanth

B. Albumin

C. Acacia

D. Gelatin

Q.9 Match the following disease with their test for detection:

Disease	Diagnostic tests
P. Tuberculosis	(i) Lepromin test
Q. AIDS	(ii) ELISA
R. Syphilis	(iii) Mantoux test
S. Leprosy	(iv) Kahn's test

A. P(ii), Q(i), R(iii), S(iv)

B. P(i), Q(ii), R(iii), S(iv)

C. P(iii), Q(ii), R(iv), S(i)

D. P(iv), Q(ii), R(iii), S(i)

Q.10 Antioxidant which is obtained from a desert plant and shows synergistic action with citric acid is:

A. Tocopherols

B. Maleic acid

C. Nordihydroguaiaretic acid (NDGA)

D. BHA

Q.11 The equivalent weight of Potassium permanganate in acidic medium is:

A. 31.6

B. 41.6

C. 51.6

D. 21.6

Q.12 Which of the following mills is based on the mechanism of impact and attrition for size reduction: https://www.pyqonline.com

A. Roller mill

B. Colloid mill

C. Hammer mill

D. Fluid energy mill

Q.13 Which of the following climatic zones can be categorized into the hot & dry zone:

A. Zone-IV

B. Zone-II

C. Zone-III

D. Zone-I

Q.14 The composition of "Lindlar catalyst" is:

A. NH_2NH_2 and KOH

B. Palladium with Sodium carbonate

C. Palladium with calcium carbonate

D. Amalgamated Zinc and HCl

Q.15 Alfa Alfa belongs to which of the following families:

A. Acanthaceae

B. Convolvulaceae

C. Leguminosae

D. Liliaceae

Q.16 Which of the following type of viscometer is used for the measurement of viscosity of a Newtonian fluid:

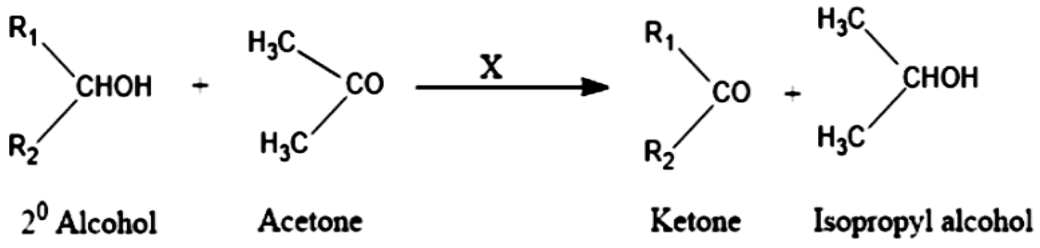
A. Cup and bob viscometer

B. Pycnometer

C. Ostwald viscometer

D. Brookfield's viscometer

Q.17 According to Oppenauer Oxidation reaction, oxidation of secondary alcohol to ketone by reagent (X) in acetone takes place, what is "X":



2^0 Alcohol Acetone Ketone Isopropyl alcohol

A. Aluminium t-butoxide

B. Amalgamated Zinc & Conc. HCl

C. Aluminium Hydroxide

D. Conc. H_2SO_4

Q.18 Which is the active form of Ganciclovir?

A. Triphosphate

B. Biphosphate

C. Tetraphosphate

D. Phosphate

Q.19 Which of the following drug is having a 1,3,4-thiadiazole ring system:

A. Spironolactone

B. Dichlorophenamide

C. Acetazolamide

D. Furosemide

Q.20 Which of the following volatile oils are heavier than water:

A. Cinnamon

B. Fennel

C. Cumin

D. Lemongrass

Q.21 H_1 receptor protein in humans is made up of:

A. 359 Aminoacids

B. 445 Aminoacids

C. 487 Aminoacids

D. 390 Aminoacids

Q.22 Which of the following is/are in-process QC test(s) for tablets:

A. Dissolution Test

B. Drug content, Puncture Test

C. Zeta-sizing Test

D. Hardness, Friability, Average weight

Q.23 5-Fluorouracil, an anti-metabolite used in cancer treatment, is activated to:

A. 5-fluoro-2-oxyuridylic acid

B. 5-fluoro-2-deoxyuridylic acid

C. 3-fluoro-3-oxyuridylic acid

D. 3-fluoro-3-deoxyuridylic acid

Q.24 The biological name of Indian Bdellium is:

A. Commiphora molmol

B. Commiphora wightii

C. Commiphora mukul

D. Commiphora berryi

Q.25 Etoposide and Teniposide are the semi-synthetic derivatives of:

A. Digoxin

B. Vincristine

C. Podophyllotoxin

D. Taxol

Section : C

Q.1 Which of the following is first prodrug for sulfonamide:

A. Sulfatrim

B. Sulfamidochrysodine

C. Trimethoprim

D. Prontocil

Q.2 The appendicular skeleton in an adult consists of:

A. 120 bones

B. 206 bones

C. 80 bones

D. 126 bones

Q.3 Which of the following is an aryl acetic acid derivative:

A. Salsalate

B. Aspirin

C. Ibuprofen

D. Mefenamic acid

Q.4 Which of the following hormone is not secreted by human placenta:

A. hCG

B. LH

C. Estrogen

D. Progesterone

Q.5 Central Government approved factory premises where Opium alkaloids are processed is situated at:

A. Ghazipur and Kota

B. New Delhi And Ghaziabad

C. Neemuch and Ghazipur

D. Gwalior and Kota

Q.6 Which one of the following diseases is caused by the deficiency of niacin:

A. Anemia

B. Pellagra

C. Scurvy

D. Night Blindness

Q.7 Which ionization technique in mass spectrometry is most suitable for large biomolecules like proteins:

A. Physical Ionization (PI)

B. Electron Impact (EI)

C. Electrospray Ionization (ESI)

D. Chemical Ionization (CI)

Q.8 Precursor for corticosteroids synthesis is:

A. 1, 2-Cyclopentophenanthrene

B. Phenanthrene

C. Cholesterol

D. 1, 2-Cyclopentodihydrophenanthrene

Q.9 Which ring of warfarin is essential for its therapeutic activity:

A. Lactone

B. Pyrimidine

C. Coumarin

D. Purine

Q.10 Melatonin is secreted by:

A. Thyrotrophs

B. Adrenal gland

C. Pineal gland

D. Gonadotrophs

Q.11 Which oral hypoglycemic agent increases the levels of incretin hormone by inhibiting the enzyme dipeptidyl peptidase-4 (DPP-4):

A. Metformin

B. Sitagliptin

C. Glipizide

D. Pioglitazone

Q.12 The etiology of jaundice could be haemolytic anaemia if:

A. Unconjugated bilirubin is found more than conjugated bilirubin

B. Increase in IgE level

C. Conjugated bilirubin is found more than unconjugated bilirubin

D. Unconjugated bilirubin is found equal to conjugated bilirubin

Q.13 Biological activity of synthetic adrenaline is almost:

A. 25% of R-adrenaline

B. 50% of S-adrenaline

C. 25% of S-adrenaline

D. 50% of Natural R-adrenaline

Q.14 Murmurs are generally heard in disorders affecting the following:

A. Heart valves

B. AV nodes

C. Pulmonary vein

D. SA nodes

Q.15 Tetracycline undergoes epimerization at C4 between pH 4-8 to give:

A. Epitetracycline

B. Nortetracycline

C. Isotetracycline

D. Doxycycline

Q.16 Leprosy is a :

A. Viral disease

B. Metazoal disease

C. Fungal disease

D. Bacterial disease

Q.17 Which of the following drug does NOT require therapeutic drug monitoring:

A. Acetaminophen

B. Phenytoin

C. Digitoxin

D. Gentamicin

Q.18 Which hormone stimulates red blood cell production:

A. Erythropoietin

B. Prolactin

C. Vasopressin

D. Erythrocytin

Q.19 Following are the examples of negative feedback system except:

A. Blood glucose maintenance

B. Blood pressure maintenance

C. Blood clotting

D. Body temperature regulation

Q.20 Which of the following is called as cell-mediated (delayed) hypersensitivity:

A. Type II hypersensitivity

B. Type I hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

Q.21 Which functional group in drug molecules is most likely to undergo phase I metabolic oxidation by cytochrome P450 enzymes:

A. Methyl group

B. Amide group

C. Hydroxyl group

D. Ester group

Q.22 How many optical isomers are possible for lactic acid:

A. 2

B. 6

C. 0

D. 4

Q.23 Histogram can be drawn only for:

A. Continuous frequency distribution

B. Discrete frequency distribution

C. Cumulative frequency distribution

D. Relative frequency distribution

Q.24 Enzyme commonly targeted by drugs to treat hypertension is:

A. Monoamine oxidase (MAO)

B. Angiotensin-converting enzyme (ACE)

C. HMG-CoA reductase

D. Cyclooxygenase (COX)

Q.25 If one event is unaffected by the outcome of another event, the two events are said to be:

A. Either dependent or independent

B. Dependent

C. Independent

D. Mutually exclusive

Section : D

Q.1 Which of the following is not a GABA derivative:

A. Pregabalin

B. Vigabatrin

C. Gabapentin

D. Rufinamide

Q.2 Who has the power to fix the ceiling price of scheduled formulations:

A. National Pharmaceutical Pricing Authority

B. Director General Health Services

C. National Medical Commission

D. Pharmacy Council of India

Q.3 A hypothesis stipulating that there is no difference between the situations, groups and outcomes is called:

A. Null hypothesis

B. Hypothesis of association

C. Hypothesis of differences

D. Alternative hypothesis

Q.4 As per Bronsted-Lowry concept, acid is defined as:

A. Electron pair acceptor

B. Any substance/molecule that can donate a proton

C. Any substance/molecule that can accept a proton

D. Electron pair donor

Q.5 How many Pharmacists are required for a hospital having up to 300 beds:

A. 15

B. 8

C. 10

D. 5

Q.6 Which of the following is peroxisome proliferator-activated receptor-alpha (PPAR-α) agonist:

A. Niacin

B. Ezetimibe

C. Colesevelam

D. Gemfibrozil

Q.7 Aerobic dehydrogenase in biological oxidation contains:

A. NADP

B. NAD

C. FMN & FAD

D. NADH

Q.8 Which of the following equipment measures weight variation using reflected energy:

A. Rotofill

B. Vericap-1200

C. Rotoweight

D. Rotosort

Q.9 Which among the following is an example of high shear mixer:

A. Sigma blade mixer

B. Turbine mixer

C. Jet mixer

D. Nauta mixer

Q.10 Influenza viruses are RNA viruses and belong to which family:

A. Orthomyxoviridae

B. Papoviridae

C. Retroviridae

D. Parvoviridae

Q.11 Plasma protein bound drugs are:

A. Pharmacodynamically inert

B. Pharmacokinetically inert

C. Pharmacodynamically active

D. Pharmacokinetically and Pharmacodynamically inert

Q.12 Partial hydrogenation of vegetable oils in the presence of Ni catalyst at 200°C gives:

A. Butter

B. Cheese

C. Margarine

D. Vanaspati ghee

Q.13 Which of the following is easily nitrated using a mixture of HNO_3 and H_2SO_4:

A. Toluene

B. Nitrobenzene

C. Chlorobenzene

D. Fluorobenzene

Q.14 Among the following which is known as “SPIRIT OF SALT”:

A. Hydrochloric acid

B. Nitric acid

C. Thioglycolic acid

D. Boric acid

Q.15 If the spin of the electrons in the excited state are parallel, it is called as:

A. Triplet state

B. Parallel state

C. Doublet state

D. Singlet state

Q.16 Choose the incorrect statement regarding Cathode rays:

A. Cathode rays are fast electrons

B. Cathode rays are electromagnetic waves

C. Cathode rays travel in straight route

D. Cathode rays produce X-rays

Q.17 The short acting anticholinesterase drug is:

A. Neostigmine

B. Edrophonium

C. Ecothiophate

D. Physostigmine

Q.18 In a homologous series of any general anesthetic, increasing the chain length increases the lipid solubility, and produce a corresponding increase in anesthetic potency, is proposed by:

A. Meyer - Philip

B. Hubert Humphrey

C. John Pemberton

D. Meyer - Overton

Q.19 In which limit test, Thioglycolic acid is used:

A. Limit test for arsenic

B. Limit test for iron

C. Limit test for sulphate

D. Limit test for chloride

Q.20 Two drugs producing the same clinical effects and safety profile when administered to patients are considered:

A. Minimum Effective Concentration (MEC)

B. Therapeutic equivalent

C. Minimum Toxic Concentration (MTC)

D. Therapeutic window

Q.21 Which among the following is not the process of drug degradation:

A. Hydrolysis

B. Decarboxylation

C. Photolysis

D. Hemolysis

Q.22 Match the following antibodies with their correct description:

Antibody	Description
P. IgE	(i) Cross the placenta
Q. IgG	(ii) Dominant antibody produced in immune responses
R. IgM	(iii) It is found in the mother's milk
S. IgA	(iv) Responsible for autoimmune responses including allergies

A. P(iv), Q(ii), R(iii), S(i)

B. P(i), Q(iii), R(ii), S(iv)

C. P(iv), Q(i), R(ii), S(iii)

D. P(i), Q(ii), R(iii), S(iv)

Q.23 The term of a patent granted under Indian Patent's Act is:

A. 40 Years

B. 10 Years

C. 30 Years

D. 20 Years

Q.24 This given equation represents which law:

$E = K_k \ln \frac{d1}{d2}$

A. Rittinger's law

B. Kick's law

C. Fick's law

D. Bond's law

Q.25 Which of the following is a correct expression of average particle size with value of p = 1 i.e index related to the size of an individual particle and frequency index (f = 2):

A	B	C	D
$d_{ln} = \frac{\sum nd^2}{\sum nd^3}$	$d_{ln} = \frac{\sum nd^3}{\sum nd^2}$	$d_{sl} = \frac{\sum nd^2}{\sum nd^3}$	$d_{sl} = \frac{\sum nd^3}{\sum nd^2}$

A. D

B. C

C. B

D. A

Section : E

Q.1 Progressive loss of bone that occurs in osteoporosis is an example of :

A. Hypertrophy

B. Hyperplasia

C. Metaplasia

D. Atrophy

Q.2 The visible coloured ring of the eye is called:

A. Lens

B. Iris

C. Cornea

D. Retina

Q.3 Which of the following is a Partial Fatty acid oxidation (pFox) inhibitor:

A. Atosiban

B. Nicardipine

C. Trimetazidine

D. Verapamil

Q.4 Which of the following is a causative organism for Syphilis:

A. Clostridium tetani

B. Bacillus pertussis

C. Treponema pallidum

D. Vibrio cholerae

Q.5 In Michaelis-Menten equation when K_m = C:

A. Indicates zero-order process

B. The rate process occurs at a constant rate

C. Equation becomes identical to first order elimination of drug

D. The rate of process is equal to half of maximum rate

Q.6 Outer Covering of the testes is:

A. Tunica media

B. Tunica vaginalis

C. Tunica vasculosa

D. Tunica albuginea

Q.7 The optimum temperature for rapid growth of mesophiles is:

A. 40 to 50 °C

B. 50 to 60 °C

C. 25 to 40 °C

D. 15 to 20 °C

Q.8 Sarcoma is the cancer of:

A. Epithelium

B. Plasma cells

C. Connective tissues

D. Glands

Q.9 The Phase in which two identical copies of DNA are formed is:

A. G1 phase

B. S phase

C. G2 phase

D. M phase

Q.10 Renin is released from:

A. Juxtaglomerular cells (JGCs) of kidney

B. Microglial cells

C. Beta-cells of pancreas

D. Hepatocytes of liver

Q.11 The most common neoplasm in patients with AIDS is:

A. Acute myeloid leukaemia

B. Adenocarcinoma

C. Kaposi sarcoma

D. Carcinoma of breast

Q.12 Coomb's test is used for detection of:

A. Typhoid

B. Antiglobulin

C. Yellow fever

D. Syphilis

Q.13 Which of the following cranial nerve is instrumental in motor function:

A. Vestibulocochlear

B. Optic

C. Accessory

D. Olfactory

Q.14 Virus mediated transfer of host DNA from one cell to another cell is known as:

A. Transcription

B. Integration

C. Transduction

D. Transformation

Q.15 The fluoroquinolones act by:

A. Inhibiting folic acid synthesis, reducing nucleotide production and DNA synthesis

B. Inhibiting ribosomal subunits, leading to the cessation of protein synthesis https://www.pyqonline.com

C. Disrupting peptidoglycan cross-linking, weakening the bacterial cell wall

D. Inhibiting DNA gyrase and topoisomerase IV, causing supercoiling and fragmentation of bacterial DNA

Q.16 Which of the following is the best technique for detecting HIV:

A. Real-time PCR

B. Widal test

C. Reverse transcriptase-PCR

D. Polymerase chain reaction

Q.17 Salivary amylase helps in digestion of which of the following nutrients:

A. Fats

B. Vitamins

C. Proteins

D. Starch

Q.18 What should be the log P value for an ideal drug candidate for transdermal permeation:

A. Above 7

B. 1-3

C. 5-7

D. Below 1

Q.19 Which of the following formula for calculating child dose is based on body weight:

A. Young's formula

B. Clark's formula

C. Fried's formula

D. Dilling's formula

Q.20 Which of the following is an example of physical incompatibility:

A. Error in dosage form

B. Alkaloidal incompatibility

C. Drug interaction

D. Liquefaction

Q.21 What is the proposed mechanism of action of artemisinin in the treatment of malaria:

A. Blocking of the Plasmodium falciparum ATPase, disrupting ion homeostasis

B. Inhibition of the heme polymerase enzyme, causing accumulation of toxic heme

C. Inhibition of dihydrofolate reductase, interfering with folate synthesis

D. Generation of reactive oxygen species (ROS) by cleavage of the endoperoxide bridge, leading to parasite death

Q.22 Which of the following is NOT a Class 1C anti-arrhythmic drug:

A. Propafenone

B. Mexiletine

C. Moricizine

D. Flecainide

Q.23 The amount of air that moves in or out of the lungs with each respiratory cycle is: https://www.pyqonline.com

A. Expiratory reserve volume

B. Tidal volume

C. Inspiratory reserve volume

D. Residual volume

Q.24 In drying process, which of the following parameters is same as the adiabatic saturation temperature:

A. Wet bulb temperature

B. Dew point

C. Absolute humidity

D. Relative humidity

Q.25 The cranial nerve that regulates the heartbeat is:

A. VII

B. IX

C. X

D. VIII

ANSWER KEY

Section : A	Section : B	Section : C	Section : D	Section : E
1. (D)	1. (C)	1. (D)	1. (D)	1. (D)
2. (C)	2. (A)	2. (D)	2. (A)	2. (B)
3. (D)	3. (A)	3. (C)	3. (A)	3. (C)
4. (C)	4. (A)	4. (B)	4. (B)	4. (C)
5. (D)	5. (A)	5. (C)	5. (C)	5. (D)
6. (C)	6. (A)	6. (B)	6. (D)	6. (B)
7. (B)	7. (C)	7. (C)	7. (C)	7. (C)
8. (B)	8. (A)	8. (C)	8. (C)	8. (C)
9. (B)	9. (C)	9. (C)	9. (A)	9. (B)
10. (D)	10. (C)	10. (C)	10. (A)	10. (A)
11. (C)	11. (A)	11. (B)	11. (A)	11. (C)
12. (B)	12. (D)	12. (A)	12. (C)	12. (B)
13. (D)	13. (C)	13. (D)	13. (A)	13. (C)
14. (B)	14. (C)	14. (A)	14. (A)	14. (C)
15. (C)	15. (C)	15. (B)	15. (A)	15. (D)
16. (A)	16. (C)	16. (D)	16. (B)	16. (C)
17. (D)	17. (A)	17. (A)	17. (B)	17. (D)
18. (D)	18. (A)	18. (A)	18. (D)	18. (B)
19. (A)	19. (C)	19. (C)	19. (B)	19. (B)
20. (B)	20. (A)	20. (D)	20. (B)	20. (D)
21. (D)	21. (C)	21. (A)	21. (D)	21. (D)
22. (C)	22. (D)	22. (A)	22. (C)	22. (B)
23. (D)	23. (B)	23. (A)	23. (D)	23. (B)
24. (A)	24. (B)	24. (B)	24. (B)	24. (A)
25. (B)	25. (C)	25. (C)	25. (B)	25. (C)