Question Paper Name:	Molecular Medicine 905 29th May 2019 Shift1 Set1
Subject Name:	Molecular Medicine 905
Creation Date:	2019-05-29 14:10:42
Duration:	180
Total Marks:	100
Display Marks:	Yes
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

Molecular Medicine 905

Group Number :	1
Group Id :	128206163
Group Maximum Duration :	0
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	100

PART A

Section Id :	128206264
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	30
Number of Questions to be attempted:	30
Section Marks:	30
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206421
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1282069282 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

pressure is lowered on an ice block

A) the melting point of the ice decreases

B) the melting point of the ice increases

C) the boiling point of the water increases

D) no change is observed the melting point of ice or boiling point of water

Options :

12820636699. A

12820636700. B

12820636701. C

12820636702. D

Question Number : 2 Question Id : 1282069283 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What are the three components of epidemiological triad?

A) An agent of infection, the host and the environment

B) The host, the incubation temperature and the nutrients

C) The nutrients, the incubation temperature and the environment

D) The environment, the nutrients and the agent of infection

Options :

12820636703. A

12820636704. B

12820636705. C

12820636706. D

Question Number : 3 Question Id : 1282069284 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the most abundant enzyme found in nature?

A) Amylase

B) RUBISCO

C) Trypsin

D) Hexokinase

Options :

12820636707. A

12820636708. B

12820636709. C

12820636710. D

Question Number : 4 Question Id : 1282069285 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

at term refers to a gene with cancer-causing potential?

A) oncogene

B) carcinogene

C) Proto-oncogene

D) Pathogene

Options :

12820636711. A

12820636712. B

12820636713. C

12820636714. D

Question Number : 5 Question Id : 1282069286 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A flow in which every particle of fluid has irregular flow is known as

A) laminar flow

B) turbulent flow

C) fluid flow

D) irregular flow

Options :

12820636715. A

12820636716. B

12820636717. C

12820636718. D

Question Number : 6 Question Id : 1282069287 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Chromosomes are separated by which of the following technique?

A) Agarose Gel Electrophoresis

B) SDS-PAGE

C) Isoelectric Focusing

D) Pulse Field Gel Electrophoresis

Options :

12820636719. A

12820636720. B

12820636721. C

12820636722. D

Question Number : 7 Question Id : 1282069288 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

ropityn a has ability to absorb which wave length of light?

A) blue-red

B) blue-green

C) yellow green

D) yellow blue

Options :

12820636723. A

12820636724. B

12820636725. C

12820636726. D

Question Number : 8 Question Id : 1282069289 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A drug made by fungi that is used to lower blood cholesterol is _____.

A) azomycin

B) clindamycin

C) tetracycline

D) lovastatin

Options :

12820636727. A

12820636728. B

12820636729. C

12820636730. D

Question Number : 9 Question Id : 1282069290 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The transfer of tissues between individual of different species is known as

A) Autograft

B) Xenograft

C) Allograft

D) Idiograft

Options :

12820636731. A

12820636732. B

12820636733. C

12820636734. D

Question Number : 10 Question Id : 1282069291 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

salts act as activator of which enzyme?

A) Pepsinogen

B) Trypsinogen

C) Lipase

D) Pancreatic amylase

Options :

12820636735. A

12820636736. B

12820636737. C

12820636738. D

Question Number : 11 Question Id : 1282069292 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which is the largest of all cranial nerves?

A) Vagus nerve

B) Oculomotor nerve

C) Olfactory nerve

D) Trigeminal nerve

Options :

12820636739. A

12820636740. B

12820636741. C

12820636742. D

Question Number : 12 Question Id : 1282069293 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Seed dormancy in plants is due to which of the following?

A) Ethylene

B) Abscisic acid

C) Indole Acetic acid (IAA)

D) Starch

Options :

12820636743. A

12820636744. B

12820636745. C

12820636746. D

Question Number : 13 Question Id : 1282069294 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lampbrush chromosomes are seen in which of the following stage?

A) Mitotic Prophase

B) Meiotic Metaphase

C) Mitotic Metaphase

D) Meiotic Prophase

Options :

12820636747. A

12820636748. B

12820636749. C

12820636750. D

Question Number : 14 Question Id : 1282069295 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following represents "haemoglobin oxygen dissociation" pattern?

A) Parabolic

B) Constant

C) Sigmoidal

D) Straight line

Options :

12820636751. A

12820636752. B

12820636753. C

12820636754. D

Question Number : 15 Question Id : 1282069296 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Liquified Petroleum Gas (LPG) is primarily composed of which of the following gases?

A) Methane, ethane, hexane

B) Isobutane, hexane, nonane

C) Methane, butane, nonane

D) Isobutane, propane, butane

Options :

12820636755. A

12820636756. B

12820636757. C

12820636758. D

Question Number : 16 Question Id : 1282069297 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

at is the total number of chromosomes in Down's syndrome?

A) 46

B) 47

C) 52

D) 45

Options :

12820636759. A

12820636760. B

12820636761. C

12820636762. D

Question Number : 17 Question Id : 1282069298 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which among the following infectious microorganisms does not spread through food or water?

A) Staphylococcus aureus

B) Salmonella spp.

C) Hepatitis E virus

D) Hepatitis B virus

Options :

12820636763. A

12820636764. B

12820636765. C

12820636766. D

Question Number : 18 Question Id : 1282069299 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a primary lymphoid organ?

A) Lymph nodes

B) Spleen

C) Peyer's patch

D) Thymus

Options :

12820636767. A

12820636768. B

12820636769. C

12820636770. D

Question Number : 19 Question Id : 1282069300 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

ch of the following reagents is used for staining and detecting lipids?

A) Sudan Black B

B) Bromophenol blue

C) Feulgen stain

D) Giemsa stain

Options :

12820636771. A

12820636772. B

12820636773. C

12820636774. D

Question Number : 20 Question Id : 1282069301 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The stacking and separating electrophoretic gels in SDS-PAGE has _____.

A) Same pH

B) Same pH and different pore size

C) Different pH and pore size

D) Same pH and same pore size

Options :

12820636775. A

12820636776. B

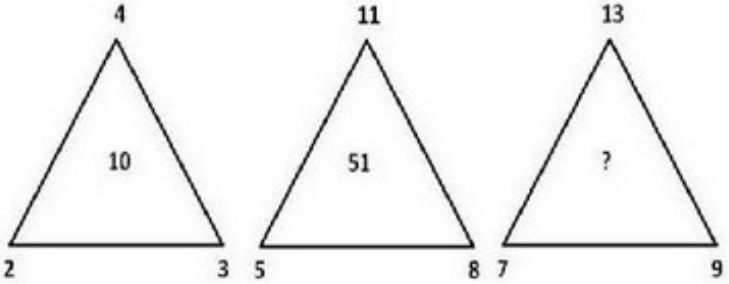
12820636777. C

12820636778. D

Question Number : 21 Question Id : 1282069302 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the missing number in the triangle below?



A) 56

B) 66

C) 76

D) 86

Options :

12820636779. A
12820636780. B
12820636781. C
12820636782. D

Question Number : 22 Question Id : 1282069303 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A mixture contains 1:1 ratio of water and alcohol. To separate water from this mixture you will need to perform:

A) Decantation

B) Distillation

C) Filtration

D) Evaporation

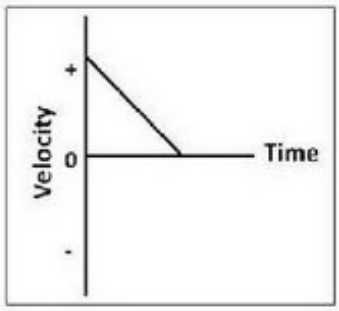
Options :

12820636783. A
12820636784. B
12820636785. C
12820636786. D

Question Number : 23 Question Id : 1282069304 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the figure below, the slope of the velocity-time graph represents:



A) Distance

B) Time

C) Speed

D) Acceleration

Options :

12820636787. A
12820636788. B
12820636789. C
12820636790. D

Question Number : 24 Question Id : 1282069305 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

nally, when epithelial cells become cancerous they exhibit

A) Epithelial-mesenchymal transition

B) Mesenchymal-epithelial transition

C) Epithelial phenotype only

D) Mesenchymal phenotype only

Options :

12820636791. A

12820636792. B

12820636793. C

12820636794. D

Question Number : 25 Question Id : 1282069306 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When oil is mixed in water it forms a layer on top of water. When white light falls on it, it shows colors, this phenomena is due to

A) Polarization of light

B) Dispersion of light

C) Reflection of light

D) Interference of light

Options :

12820636795. A

12820636796. B

12820636797. C

12820636798. D

Question Number : 26 Question Id : 1282069307 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Radiocarbon is produced in the atmosphere as a result of

A) collision between fast neutrons and nitrogen nuclei present in the atmosphere

B) action of ultraviolet light from the sun on atmospheric oxygen

C) action of solar radiations particularly cosmic rays on carbon dioxide present in the atmosphere

D) lightening discharge in atmosphere

Options :

12820636799. A

12820636800. B

12820636801. C

12820636802. D

Question Number : 27 Question Id : 1282069308 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

coined the term black hole?

A) Isaac Newton

B) Albert Einstein

C) Stephen Hawkins

D) John Wheeler

Options :

12820636803. A

12820636804. B

12820636805. C

12820636806. D

Question Number : 28 Question Id : 1282069309 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Absence of which enzyme leads to Severe Combined Immune Deficiency?

A) Guanosine deaminase

B) Adenosine deaminase

C) Adenosine phosphorylase

D) Uridine decarboxylase

Options :

12820636807. A

12820636808. B

12820636809. C

12820636810. D

Question Number : 29 Question Id : 1282069310 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An ideal solution is one which obeys which of the following laws?

A) Hess's law

B) Kirchoff's law

C) Raoult's law

D) Rayleigh-Jeans law

Options :

12820636811. A

12820636812. B

12820636813. C

12820636814. D

Question Number : 30 Question Id : 1282069311 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

obiome is a

A) collection of very small bacteria in extreme ecology

B) collection of microbes in a defined ecology

C) collection of bacteria and fibers

D) collection of bacteriophages

Options :

12820636815. A

12820636816. B

12820636817. C

12820636818. D

PART B

Section Id :	128206265
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	70
Number of Questions to be attempted:	70
Section Marks:	70
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206422
Question Shuffling Allowed :	Yes

Question Number : 31 Question Id : 1282069312 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The viral genome attached to a bacterial genome is often termed as _____.

A) Prophage

B) Bacteriophage

C) Autophagy

D) Pexophagy

Options :

12820636819. A

12820636820. B

12820636821. C

12820636822. D

Question Number : 32 Question Id : 1282069313 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

analyses of which of the following is used as a measure for relatedness beyond species level between organisms?

A) mRNA

B) tRNA

C) rRNA

D) miRNA

Options :

12820636823. A

12820636824. B

12820636825. C

12820636826. D

Question Number : 33 Question Id : 1282069314 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A protein is a tetramer, with each dimer composed of 25-kDa and 50-kDa and linked by disulfide bonds. In a reducing SDS-PAGE, the number of bands seen will be _____.

A) 2

B) 1

C) 3

D) 4

Options :

12820636827. A

12820636828. B

12820636829. C

12820636830. D

Question Number : 34 Question Id : 1282069315 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cell lysis by complement pathway is initiated by which of the following mechanism?

A) Membrane lysis complex

B) Membrane attack complex

C) Membrane degradation complex

D) Membrane depolymerization complex

Options :

12820636831. A

12820636832. B

12820636833. C

12820636834. D

Question Number : 35 Question Id : 1282069316 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If one strand of DNA has the following sequence: ATGATTGG, what will be the complementary RNA sequence?

A) 5'CCAAUGAU3'

B) 5'CCAATCAT3'

C) 3'CCAATCAT5'

D) 3'CCAAUCAU5'

Options :

12820636835. A

12820636836. B

12820636837. C

12820636838. D

Question Number : 36 Question Id : 1282069317 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

On restriction digestion with *BamHI* and resolving by agarose gel electrophoresis, a plasmid of 8 kb shows the presence of 2 distinct bands of 3 kb and 2 kb. The number of *BamHI* sites present in the plasmid is

A) One

B) Two

C) Three

D) None

Options :

12820636839. A

12820636840. B

12820636841. C

12820636842. D

Question Number : 37 Question Id : 1282069318 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Saturated solution of KNO_3 is used to make 'salt bridge' because

A) the velocity of K+ is greater than that of NO_3^-

B) the velocity of NO_3^- is greater than that of K^+

C) the velocity of both NO_3^- and K^+ are nearly the same

D) KNO_3 is highly soluble in water

Options :

12820636843. A

12820636844. B

12820636845. C

12820636846. D

In HeLa cell cytosol, protein **A** interacts with protein **B** and **C**. Protein **D** interacts with protein **A** and **C**. Protein **E** interacts with protein **B** only. You have done immunoprecipitation using anti-Protein D antibodies and resolved by SDS-PAGE. The number of bands that you will see in a gel is/are:

A) 1

B) 5

C) 7

D) 3

Options :

12820636847. A

12820636848. B

12820636849. C

12820636850. D

Cathepsin D is a

A) Serine protease

B) Alkaline protease

C) Metalloprotease

D) Carboxypeptidase

Options :

12820636851. A

12820636852. B

12820636853. C

12820636854. D

ngle B cell produces antibodies against HIV. This B cell divides and grows in culture to give rise to many B cells. The antibodies from these cells may be described as

A) IgB, because they are produced by B cells in culture.

B) Polyclonal antibodies since there is no hybridoma involved and each daughter cell is a discrete clone

C) Monoclonal antibodies since all B cells are the same clone

D) Monospecific antibodies since all B cells are producing same antibodies

Options :

12820636855. A

12820636856. B

12820636857. C

12820636858. D

Question Number : 41 Question Id : 1282069322 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The *Nod* like Receptor is

A) T cell receptor

B) Immune receptor

C) Ion channel

D) Scavenger Receptor

Options :

12820636859. A

12820636860. B

12820636861. C

12820636862. D

Question Number : 42 Question Id : 1282069323 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The fundamental difference between proteasome and lysosome mediated degradation is

A) Target is ubiquitinated in proteasome pathway

B) Target is oxidized in lysosome pathway

C) Target is glycosylated in lysosome pathway

D) Target is reduced in lysosome pathway

Options :

12820636863. A

12820636864. B

12820636865. C

12820636866. D

Biofilms are

A) Hydrophobic films produced by bacteria

B) Surface colonized immobile bacteria

C) Bacteria commonly present on inert surfaces

D) Surface colonized sessile bacteria

Options :

12820636867. A

12820636868. B

12820636869. C

12820636870. D

The interleukin-10 is

A) pro-inflammatory cytokine

B) anti- inflammatory cytokine

C) cell-cell interlinking factor

D) pleotropic cytokine

Options :

12820636871. A

12820636872. B

12820636873. C

12820636874. D

The original human genome sequencing was carried out by which of the following methods?

A) shotgun cloning

B) Whole Genome Sequencing

C) Sanger protein sequencing

D) Pyroseqencing

Options :

12820636875. A

12820636876. B

12820636877. C

12820636878. D

A protein when covalently linked to which the following is tagged for degradation?

A) Protease

B) Epoeitin

C) Ubiquitin

D) Biotin

Options :

12820636879. A

12820636880. B

12820636881. C

12820636882. D

Question Number : 47 Question Id : 1282069328 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The pentose phosphate pathway

A) Includes an oxidative phase that generates NADH

B) Includes non-oxidative synthesis of Ribulose 5' Phosphate

C) Produces 8-carbon sugars

D) Produces $FADH_2$

Options :

12820636883. A

12820636884. B

12820636885. C

12820636886. D

Question Number : 48 Question Id : 1282069329 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

RNA polymerase II involves one of the following components

A) general (or basic) transcription enhancer

B) ribonucleoproteins

C) activators and coactivators

D) activators and repressors

Options :

12820636887. A

12820636888. B

12820636889. C

12820636890. D

Question Number : 49 Question Id : 1282069330 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

eins that are translated in the cytoplasm and transported to the organelle like mitochondria should contain the following sequences except which of the following?

A) a signal peptide for targeting

B) a transit peptide for crossing the mitochondrial membrane

C) a protease site to get rid of the signal peptide

D) a transactivator sequence for efficient translation before getting transported

Options :

12820636891. A

12820636892. B

12820636893. C

12820636894. D

Question Number : 50 Question Id : 1282069331 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Steroid hormones bind to specific nuclear receptors and interact with DNA through their _____.

A) Helix turn helix

B) Zinc finger motif

C) Histidine-cysteine residues

D) Leucine zipper

Options :

12820636895. A

12820636896. B

12820636897. C

12820636898. D

Question Number : 51 Question Id : 1282069332 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A solution contains two proteins with same mass. The pI of one protein is 6.5. The protein can be purified best at the physiological pH using by which of the following techniques?

A) anion exchange chromatography

B) Thin layer chromatography

C) cation exchange chromatography

D) Gel filtration chromatography

Options :

12820636899. A

12820636900. B

12820636901. C

12820636902. D

Question Number : 52 Question Id : 1282069333 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The expression variable surface glycoprotein (VSG) genes in *Trypanosomes* are insensitive to alpha amanitin treatment up to 50 microgram per ml. VSGs are expressed by _____.

A) RNA Pol I

B) RNA Pol II

C) RNA Pol III

D) RNA Pol IV

Options :

12820636903. A

12820636904. B

12820636905. C

12820636906. D

Question Number : 53 Question Id : 1282069334 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Actins and tubulins are subunits of actin filaments and microtubules, respectively. They bind and hydrolyze which of the following nucleoside triphosphates for their activity?

A) Actin binds GTP and tubulin binds ATP

B) Actin binds both ATP and GTP while tubulin binds only ATP

C) Actin binds UTP and tubulin binds GTP

D) Actin binds ATP and tubulin binds GTP

Options :

12820636907. A

12820636908. B

12820636909. C

12820636910. D

Question Number : 54 Question Id : 1282069335 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If methanol is oxidized in human retina tissue, the following product will be generated.

A) Acetaldehyde

B) Methanoic acid

C) Formaldehyde

D) Ethanol

Options :

12820636911. A

12820636912. B

12820636913. C

12820636914. D

Diphtheria toxin does not interfere in cellular processes like DNA replication or transcription.

The target of Diphtheria toxin is

A) Eukaryotic elongation factor 2

B) RNA pol II

C) Eukaryotic peptidyltransferase

D) DNA Gyrase

Options :

12820636915. A

12820636916. B

12820636917. C

12820636918. D

Several techniques may be used to determine the location of a specific protein inside a cell.

Some of the options are given below (i-v). Please indicate the correct combinations.

(i) Bright-field microscopy

(ii) GFP-tagging / fluorescent microscopy

(iii) Phase contrast microscopy

(iv) Immunofluorescence microscopy

(v) Scanning electron microscopy

A) (i) and (ii)

B) (ii) and (iv)

C) (ii) and (v)

D) (i) and (iii)

Options :

12820636919. A

12820636920. B

12820636921. C

12820636922. D

ch of the following statements is not true for transmembrane proteins?

A) all contain a hydrophobic α helix

B) some serve as membrane attachment sites for peripheral membrane proteins

C) some contain more than one membrane-spanning domain

D) all are asymmetrically oriented in the lipid bilayer

Options :

12820636923. A

12820636924. B

12820636925. C

12820636926. D

Question Number : 58 Question Id : 1282069339 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cells that produce large amounts of secretory proteins are abundant in which of the following organelles?

A) Mitochondria

B) Lysosomes

C) Smooth endoplasmic reticulum

D) Rough endoplasmic reticulum

Options :

12820636927. A

12820636928. B

12820636929. C

12820636930. D

Question Number : 59 Question Id : 1282069340 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Prior to cell fractionation, cells may be ruptured by placing them in which of the following solutions?

A) An isotonic solution

B) A hypotonic solution

C) A hypertonic solution

D) Phosphate Buffered Saline solution

Options :

12820636931. A

12820636932. B

12820636933. C

12820636934. D

S. cerevisiae cdc28^{ts} temperature sensitive cells form colonies at 25^{0}C but not at 37^{0}C. Which of the following statement is incorrect?

A) CDC28 protein is properly folded at 25^{0}C

B) CDC28 protein is mis-folded at 37^{0}C

C) *cdc28* gene is not expressed at 37^{0}C

D) CDC28 protein cannot bind to clb at 37^{0}C

Options :

12820636935. A

12820636936. B

12820636937. C

12820636938. D

In an effort to amplify a 1.5 kb region from mouse genomic DNA using specific forward and reverse primers, following after the PCR one always gets four bands corresponding to 0.5 kb, 0.75 kb, 1.0 kb and 1.5 kb respectively. This event can be explained as follows:

A) the forward primer binds to three different places non-specifically

B) the reverse primer binds to three different places non-specifically

C) a contaminant endonuclease cuts the product at three different places

D) the 1.5 kb region contains repetitive DNA

Options :

12820636939. A

12820636940. B

12820636941. C

12820636942. D

Which one of the following is NOT a typical mechanism by which a proto-oncogene is converted to an oncogene?

A) Amplification of the proto-oncogene

B) A chromosomal translocation resulting in the up-regulation of the proto-oncogene

C) A point mutation in the proto-oncogene

D) Conditional deletion of the proto-oncogene

Options :

12820636943. A

12820636944. B

12820636945. C

12820636946. D

Question Number : 63 Question Id : 1282069344 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hydroxyurea blocks DNA replication by _____.

A) inhibiting DNA polymerase

B) inhibiting ribonucleotide reductase

C) inhibiting lagging strand DNA synthesis

D) inhibiting replicative helicase

Options :

12820636947. A

12820636948. B

12820636949. C

12820636950. D

Question Number : 64 Question Id : 1282069345 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A miRNA against a specific gene will lead to which of the following?

A) Degradation of mRNA

B) Degradation of the protein

C) Translational defect of the mRNA

D) Shortening of the half-life of the mRNA

Options :

12820636951. A

12820636952. B

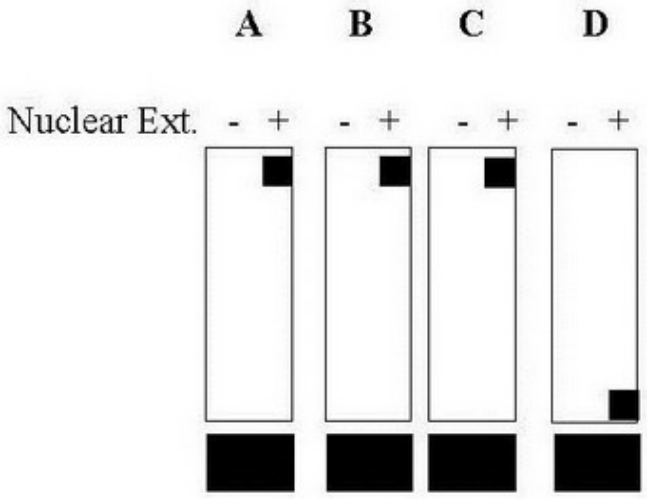
12820636953. C

12820636954. D

Question Number : 65 Question Id : 1282069346 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Electrophoretic mobility shift assay (EMSA) was performed using a radiolabeled DNA fragment from the sequence upstream of gene X. This DNA probe was incubated with (+) or without (-) nuclear extract (ext.) isolated from tissues A (bone); B (lung); C (brain); and D (skin). The DNA-protein complexes were then fractionated on nondenaturing polyacrylamide gels. The gels were exposed to autoradiographic film and the results are presented in the below figure. The DNA-Protein complexes are shown by black squares. Which among the following statements is incorrect?



A) All tissues contain binding activity that recognizes the upstream of gene X.

B) Bone and brain may contain the similar protein that binds to the probe.

C) Among the proteins that result in shifted bands, the one from lung may have intermediate molecular mass.

D) The protein from skin may have the weakest DNA binding activity.

Options :

12820636955. A

12820636956. B

12820636957. C

12820636958. D

Question Number : 66 Question Id : 1282069347 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Enteropeptidase is an enzyme produced by the cells of duodenum. Which of the following enzymes does it convert from an inactive to active form?

A) Procaspase to caspase

B) Caseinogen to casein

C) Pepsinogen to pepsin

D) Trypsinogen to trypsin

Options :

12820636959. A

12820636960. B

12820636961. C

12820636962. D

Question Number : 67 Question Id : 1282069348 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The human body has remarkable capacity to regulate its core temperature between 98°F and 100°F. This temperature is regulated by which of the following?

A) Hypothalamus

B) Cerebellum

C) Medulla oblongata

D) Basal Ganglia

Options :

12820636963. A

12820636964. B

12820636965. C

12820636966. D

Question Number : 68 Question Id : 1282069349 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following ploidy is rare in nature because the recessive lethal mutations become unmasked and the organism dies?

A) Monoploidy

B) Euploidy

C) Polyploidy

D) Aneuploidy

Options :

12820636967. A

12820636968. B

12820636969. C

12820636970. D

Correct Marks : 1 Wrong Marks : 0

Bt gene is isolated from a Gram-positive, soil-dwelling bacterium and is commonly used as a biological pesticide. Identify the genus of the bacterium from which this gene is derived?

A) *Bordetella*

B) *Bartonella*

C) *Borrelia*

D) *Bacillus*

Options :

12820636971. A

12820636972. B

12820636973. C

12820636974. D

Question Number : 70 Question Id : 1282069351 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Nobel prize in 'Physiology or Medicine' for the year 2018 has been awarded for the scientific contributions made in which area?

A) Discovery of HIV

B) Autophagy

C) Infections caused by roundworm parasites

D) Cancer immunotherapy

Options :

12820636975. A

12820636976. B

12820636977. C

12820636978. D

Question Number : 71 Question Id : 1282069352 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What will be the molality of a solution with 18 g of glucose (having molecular weight of 180) in 500 g of water?

A) 0.1

B) 0.2

C) 0.5

D) 0.9

Options :

12820636979. A

12820636980. B

12820636981. C

Question Number : 72 Question Id : 1282069353 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following human origin cell lines derived from cervical cancer is oldest and among the most commonly used in scientific research?

A) CHO

B) Sf9

C) HEK293

D) HeLa

Options :

12820636983. A

12820636984. B

12820636985. C

12820636986. D

Question Number : 73 Question Id : 1282069354 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An example of a disease attributed to mutation of a single nucleotide is _____.

A) Thalassemia

B) Rickets

C) Sickle cell anemia

D) Turner's syndrome

Options :

12820636987. A

12820636988. B

12820636989. C

12820636990. D

Question Number : 74 Question Id : 1282069355 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the pair of hormones that can cross the plasma membrane and bind to intracellular receptors?

A) epidermal growth factor and cortisol

B) glucocorticoid and testosterone

C) glucagon and insulin

D) somatostatin and epinephrine

Options :

12820636991. A

12820636992. B

12820636993. C
12820636994. D

Question Number : 75 Question Id : 1282069356 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In a healthy person, the systolic and diastolic pressure are 120/80 mmHg in arteries. What will be the 'pulse pressure' in such a person?

A) 200 mmHg

B) 120 mmHg

C) 80 mmHg

D) 40 mmHg

Options :
12820636995. A
12820636996. B
12820636997. C
12820636998. D

Question Number : 76 Question Id : 1282069357 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following components of the extracellular matrix has maximum tensile strength?

A) Collagen

B) Fibronectin

C) Laminin

D) Integrins

Options :
12820636999. A
12820637000. B
12820637001. C
12820637002. D

Question Number : 77 Question Id : 1282069358 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Adenosine triphosphate has a molar mass of

A) 507.18 g/mol

B) 1237.12 g/mol

C) 122 g/mol

D) Cannot be calculated since this is a polymer

Options :
12820637003. A
12820637004. B

12820637005. C
12820637006. D

Question Number : 78 Question Id : 1282069359 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

You need to make 500 ml of Luria Broth containing 50 ug/ml ampicillin. The stock solution of ampicillin is 100 mg/ml. How much volume from the stock solution should you use?

A) 100 ul

B) 150 ul

C) 200 ul

D) 250 ul

Options :

12820637007. A

12820637008. B

12820637009. C

12820637010. D

Question Number : 79 Question Id : 1282069360 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The molality of a solution that has 1.5 moles added to 675 ml of solvent will be

A) 1.0

B) 1.1

C) 2.0

D) 2.2

Options :

12820637011. A

12820637012. B

12820637013. C

12820637014. D

Question Number : 80 Question Id : 1282069361 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The sequence of a gene has been reported for *Drosophila* but not mouse. What kind of primers can you use in a PCR reaction if you want to amplify the mouse version of the gene?

A) Specific forward and reverse primers

B) Nested primers

C) Degenerate primers

D) RNA Primer

Options :

12820637015. A

12820637016. B
12820637017. C
12820637018. D

Question Number : 81 Question Id : 1282069362 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Autoclaving of solutions is generally performed at 15 lbs pressure and 121°C. If pressure is reduced to 10 lbs- what would be the temperature?

A) 110 ^{0}C

B) 100 ^{0}C

C) 105.3 ^{0}C.

D) 116.1 ^{0}C

Options :
12820637019. A
12820637020. B
12820637021. C
12820637022. D

Question Number : 82 Question Id : 1282069363 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which one of the following is true for a partially diploid F'*lacI*$^{+}$/*lacI*$^{-}$ *E. coli* strain in the presence of inducer?

A) Inducible

B) Non-inducible.

C) Constitutive.

D) Regulatable

Options :
12820637023. A
12820637024. B
12820637025. C
12820637026. D

Question Number : 83 Question Id : 1282069364 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Telomerase is an enzyme which _____.

A) Synthesizes DNA using a DNA template that is part of the enzyme.

B) Synthesizes DNA in the absence of DNA or RNA template.

C) Synthesizes DNA using ribosomal RNA as template.

D) Synthesizes DNA using an RNA template that is associated with the enzyme.

12820637027. A
12820637028. B
12820637029. C
12820637030. D

Question Number : 84 Question Id : 1282069365 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

E. coli topoisomerase I introduces nick in DNA but which of the following is not associated with it?

A) It removes negative super coils from DNA.

B) It uses ATP as energy source.

C) It is essential for the bacteria.

D) It produces relaxed DNA.

Options :
12820637031. A
12820637032. B
12820637033. C
12820637034. D

Question Number : 85 Question Id : 1282069366 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

In *E. coli*, parental DNA strands are distinguishable from newly synthesized daughter DNA strands because

A) Parental strands are unmethylated and daughter strands are methylated.

B) Parental strands are methylated and daughter strands are unmethylated.

C) Parental strands are depurinated and daughter strand are not.

D) Parental strands are acetylated

Options :
12820637035. A
12820637036. B
12820637037. C
12820637038. D

Question Number : 86 Question Id : 1282069367 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

ents having familial hypercholesterolemia have _____.

A) defective transport of cholesterol across the intestinal epithelial cell layer.

B) low level of cholesterol in their blood.

C) little, if any, deposition of cholesterol into atherosclerotic plaques.

D) high cholesterol levels in their bloodstream.

Options :

12820637039. A

12820637040. B

12820637041. C

12820637042. D

Question Number : 87 Question Id : 1282069368 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are reduced coenzymes?

A) NADH and FADH2

B) NAD+ and FAD

C) ATP and GTP

D) Coenzyme A and ubiquinone

Options :

12820637043. A

12820637044. B

12820637045. C

12820637046. D

Question Number : 88 Question Id : 1282069369 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Phylogenetic relationship can be shown by

A) Data search tool

B) Gene Bank

C) Data retrieving tool

D) Dendrogram

Options :

12820637047. A

12820637048. B

12820637049. C

12820637050. D

Question Number : 89 Question Id : 1282069370 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

metal co-factors bound to a protein can be identified using

A) Size exclusion chromatography

B) SDS - PAGE analysis

C) Atomic absorption spectroscopy

D) Ultraviolet spectroscopy

Options :

12820637051. A

12820637052. B

12820637053. C

12820637054. D

Question Number : 90 Question Id : 1282069371 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statement regarding lipid is false?

A) Lipids can serve as energy source for cells

B) All cell membrane contains lipids

C) All lipids can form bilayer membranes

D) Lipids can function as hormone

Options :

12820637055. A

12820637056. B

12820637057. C

12820637058. D

Question Number : 91 Question Id : 1282069372 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the person shows the production of interferons in his body, chances are that he is suffering from _____.

A) Malaria

B) Measles

C) Tetanus

D) Anthrax

Options :

12820637059. A

12820637060. B

12820637061. C

12820637062. D

Question Number : 92 Question Id : 1282069373 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

ge compensation in *Drosophila* is achieved by

A) Hypoactivation of both X chromosomes

B) Hyperactivation of Y chromosome

C) Hyperactivation of maternal chromosome

D) Hyperactivation of paternal chromosome

Options :

12820637063. A

12820637064. B

12820637065. C

12820637066. D

Question Number : 93 Question Id : 1282069374 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Substrate binds to the active site of an enzyme through all of these except

A) Peptide bond

B) Hydrogen bond

C) Hydrophobic bond

D) Covalent

Options :

12820637067. A

12820637068. B

12820637069. C

12820637070. D

Question Number : 94 Question Id : 1282069375 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Who coined the term Plasmid?

A) Herbert Boyer

B) Lederberg

C) Stanley

D) Banthem

Options :

12820637071. A

12820637072. B

12820637073. C

12820637074. D

Question Number : 95 Question Id : 1282069376 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

oxygenase-1 and -2 are responsible for which of the following?

A) The synthesis of prostaglandins from arachidonate

B) The synthesis of leukotrienes from arachidonate

C) The conversion of ATP to cAMP

D) The metabolic degradation of cAMP

Options :

12820637075. A

12820637076. B

12820637077. C

12820637078. D

Question Number : 96 Question Id : 1282069377 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The production of adventitious roots and shoots from cells of tissue culture is termed _____.

A) Organogenesis

B) Micropropagation

C) Callus Culture

D) Suspension Culture

Options :

12820637079. A

12820637080. B

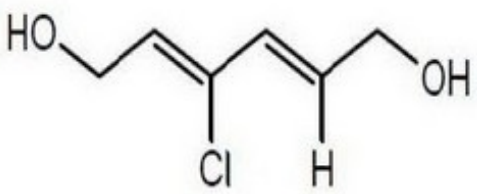
12820637081. C

12820637082. D

Question Number : 97 Question Id : 1282069378 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The IUPAC name of the compound given below



A) (2E, 4E)-3-chlorohexa-2, 4-diene-1, 6-diol

B) (2Z, 4E)-3-chlorhexa-2, 4-diene-1, 6-diol

C) (2Z, 4Z)-4-chlorohexa-2, 4-diene-1, 6-diol

D) (2E, 4Z)-4-chlorohexa-2, 4-diene-1, 6-diol

Options :

12820637083. A

12820637084. B

12820637085. C

Question Number : 98 Question Id : 1282069379 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The correct order of reactivity towards electrophilic aromatic substitution is _____.

A) Furan > Thiophene > Pyrrole > Benzene

B) Thiophene > Furan > Pyrrole > Benzene

C) Benzene > Thiophene > Furan > Pyrrole

D) Pyrrole > Furan > Thiophene > Benzene

Options :

12820637087. A

12820637088. B

12820637089. C

12820637090. D

Question Number : 99 Question Id : 1282069380 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The activation energy of a reaction at a given temperature is found to be $2.303RT\ J\ mol^{-1}$. The ratio of rate constant to the Arrhenius factor is _____.

A) 0.1

B) 0.01

C) 0.001

D) 0.02

Options :

12820637091. A

12820637092. B

12820637093. C

12820637094. D

Question Number : 100 Question Id : 1282069381 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the correct statement regarding Entropy

A) At absolute zero temperature, entropy of a perfectly crystalline substance is taken to be zero.

B) At absolute zero temperature, entropy of a perfectly crystalline substance is positive

C) Absolute entropy of a substance cannot be determined

D) At 0°C, the entropy of a perfectly crystalline substance is taken to be zero.

Options :

12820637095. A

12820637096. B
12820637097. C
12820637098. D