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**Post Graduate Assistants 2018-2019**  
**Subject – Bio Chemistry**  
**Question Paper – Tentative key**  
**Date of Exam – 28.09.2019 & Session - AN**

1 Vitamin B<sub>1</sub> can be assayed by \_\_\_\_\_.  
Vitamin B<sub>1</sub> can be assayed by \_\_\_\_\_.

- A: Spectrofluorimetry  
Spectrofluorimetry
- B: Turbidometry  
Turbidometry
- C: Calorimetry  
Calorimetry
- D: Gravimetry  
Gravimetry

**Correct Alternative :- A**

2 The greatest disadvantage of Scintillation Counting is \_\_\_\_\_.  
The greatest disadvantage of Scintillation Counting is \_\_\_\_\_.  
\_\_\_\_\_.

- A: quenching  
quenching
- B: corrosion  
corrosion
- C: transformation  
transformation
- D: collision  
Collision

**Correct Alternative :- A**

3 Bacterial components such as endospores and inclusion bodies containing poly β-hydroxy butyrate can be detected by \_\_\_\_\_.  
Bacterial components such as endospores and inclusion bodies containing poly β-hydroxy butyrate can be detected by \_\_\_\_\_.  
\_\_\_\_\_.

- A: Dark Field Microscopy  
Dark Field Microscopy

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B: Phase Contrast Microscope

Phase Contrast Microscope

C: Fluorescense Microscope

Fluorescense Microscope

D: Polarised Microscope

Polarised Microscope

**Correct Alternative :- B**

4

The requirement of Vitamin E increases with the intake of :

The requirement of Vitamin E increases with the intake of :

A: Polyunsaturated fatty acids

Polyunsaturated fatty acids

B: Saturated fatty acids

Saturated fatty acids

C: Complex carbohydrates

Complex carbohydrates

D: Soluble proteins

Soluble proteins

**Correct Alternative :- A**

5

The tripeptide present in human red blood cells with potent antioxidant activity is :

The tripeptide present in human red blood cells with potent antioxidant activity is :

A: glutathione

glutathione

B: ankyrin

ankyrin

C: bradykinin

bradykinin

D: plasmin

Plasmin

**Correct Alternative :- A**

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6

The amino acid with non- $\alpha$ -amino group play important role in mammalian metabolism is :  
The amino acid with non- $\alpha$ -amino group play important role in mammalian metabolism is :

- A: Ornithine  
Ornithine
- B: Taurine  
Taurine
- C: Citrulline  
Citrulline
- D: Betain  
Betain

**Correct Alternative :- B**

7

Iduronic acid is not a component of :  
Iduronic acid is not a component of :

- A: Chondroitin Sulphate - A  
Chondroitin Sulphate - A
- B: Dermutan Sulphate  
Dermutan Sulphate
- C: Heparan Sulphate  
Heparan Sulphate
- D: Heparin  
Heparin

**Correct Alternative :- A**

8

Which of the following enzyme catalyses the phosphorylation of substrate with the use of inorganic phosphorus ?  
Which of the following enzyme catalyses the phosphorylation of substrate with the use of inorganic phosphorus ?

- A: Hexokinase  
Hexokinase
- B: Phospho fructo kinase  
Phospho fructo kinase
- C: Glyceraldehyde - 3 - phosphate dehydrogenase  
Glyceraldehyde - 3 - phosphate dehydrogenase
- D: Phospho glycero mutase  
Phospho glycero mutase

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**Correct Alternative :- C**

9 Mitochondrial matrix brought to equilibrium by incubation with 0.1 M Potassium Chloride at pH 9, when resuspended in a buffer of pH 7 with valinomycin results in \_\_\_\_\_ under laboratory conditions in the presence of ADP and inorganic phosphorous.

Mitochondrial matrix brought to equilibrium by incubation with 0.1 M Potassium Chloride at pH 9, when resuspended in a buffer of pH 7 with valinomycin results in \_\_\_\_\_ under laboratory conditions in the presence of ADP and inorganic phosphorous.

- A: formation of ATP
  - formation of ATP
- B: interruption of electron flow
  - interruption of electron flow
- C: prevention of phosphorylation of ADP to ATP
  - prevention of phosphorylation of ADP to ATP
- D: Inhibition of both electron flow and phosphorylation
  - Inhibition of both electron flow and phosphorylation

**Correct Alternative :- A**

10 The group transfer potential of phosphocreatine is :  
The group transfer potential of phosphocreatine is :

- A: 24.2 kcal/mol
  - 24.2 kcal/mol
- B: 23.3 kcal/mol
  - 23.3 kcal/mol
- C: 212.8 kcal/mol
  - 212.8 kcal/mol
- D: 210.5 kcal/mol
  - 210.5 kcal/mol

**Correct Alternative :- D**

11 An individual develops haemolytic anaemia after the intake of anti-malarial drug and this reaction is likely due to :  
An individual develops haemolytic anaemia after the intake of anti-malarial drug and this reaction is likely due to :

- A: Glucose 6-phosphate dehydrogenase deficiency
  - Glucose 6-phosphate dehydrogenase deficiency
- B: Glycogen phosphorylase deficiency

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Glycogen phosphorylase deficiency

- C: Diabetes Mellitus
- Diabetes Mellitus
- D: Scurvy
- Scurvy

**Correct Alternative :- A**

12

Given : A  $\rightarrow$  B  $\Delta G_0^1 = -8 \text{ kcal/mol}$

B  $\rightarrow$  C  $\Delta G_0^1 = +5 \text{ kcal/mol}$

Find the standard free energy change for the overall reaction A  $\rightarrow$  C

- A: 213 kcal/mol
- 213 kcal/mol
- B: 240 kcal/mol
- 240 kcal/mol
- C: 23 kcal/mol
- 23 kcal/mol
- D: 13 kcal/mol
- 13 kcal/mol

**Correct Alternative :- C**

13

Most of the water soluble B complex Vitamins act as \_\_\_\_\_.  
Most of the water soluble B complex Vitamins act as \_\_\_\_\_.

- A: enzymes
- enzymes
- B: coenzymes
- coenzymes
- C: co-factors
- co-factors
- D: activation
- Activation

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**Correct Alternative :- B**

14 \_\_\_\_\_ marker enzyme inner membrane of mitochondria.  
\_\_\_\_\_ marker enzyme inner membrane of mitochondria.

A: Cytochrome C-oxidase  
Cytochrome C-oxidase  
B: Hexokinase  
Hexokinase  
C: Aryl Sulphatase  
Aryl Sulphatase  
D: Glutamate Dehydrogenase  
Glutamate Dehydrogenase

**Correct Alternative :- A**

15 In competitive inhibition  $V_{max}$  is unaffected but \_\_\_\_\_ is increased.  
In competitive inhibition  $V_{max}$  is unaffected but \_\_\_\_\_ is increased.

A: apparent  $K_m$   
apparent  $K_m$   
B:  $K_s$   
 $K_s$   
C: S  
S  
D:  $-\frac{I}{K_m}$

**Correct Alternative :- A**

16 Choose the statement which is not correct.  
Choose the statement which is not correct.

A: Gluco corticoids are insulin agonists.  
Gluco corticoids are insulin agonists.  
B: Glucokinase is important in regulating blood glucose level after a meal.

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Glucokinase is important in regulating blood glucose level after a meal.

C: Insulin increases glucose tolerance in diabetic patients.  
Insulin increases glucose tolerance in diabetic patients.  
D: Fructose 1 - 6 biphasphatase deficiency causes lactic acidosis.  
Fructose 1 - 6 biphasphatase deficiency causes lactic acidosis.

**Correct Alternative :- A**

17

In the homozygous individuals there is near absence of HDL and accumulation of cholestryl esters in tissues. This clinical condition is known as :

In the homozygous individuals there is near absence of HDL and accumulation of cholestryl esters in tissues. This clinical condition is known as :

A: Tangier's disease  
Tangier's disease  
B: Abeta lipoproteinemia  
Abeta lipoproteinemia  
C: Hypobeta lipoproteinemia  
Hypobeta lipoproteinemia  
D: Hypo lipoproteinemia  
Hypo lipoproteinemia

**Correct Alternative :- A**

18

The normal level of creatinine clearance in male individuals given for reference is :

The normal level of creatinine clearance in male individuals given for reference is :

A: 105 6 10 ml/min  
105 6 10 ml/min  
B: 10 6 2 ml/min  
10 6 2 ml/min  
C: 50 6 5 ml/min  
50 6 5 ml/min  
D: 200 6 20 ml/min  
200 6 20 ml/min

**Correct Alternative :- A**

19

Factor VIII related bleeding disorder is known as :

Factor VIII related bleeding disorder is known as :

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- A: Haemophilia B  
Haemophilia B
- B: Haemophilia C  
Haemophilia C
- C: Haemophilia A  
Haemophilia A
- D: Haemo chromatosis  
Haemo chromatosis

**Correct Alternative :- C**

20

A researcher made an interesting observation about a protein made by the rough endoplasmic reticulum (ER) and eventually used to build a cell's plasma membrane. The protein in the membrane was slightly different from the protein made in ER. The protein was probably changed in :

A researcher made an interesting observation about a protein made by the rough endoplasmic reticulum (ER) and eventually used to build a cell's plasma membrane. The protein in the membrane was slightly different from the protein made in ER. The protein was probably changed in :

- A: golgi apparatus  
golgi apparatus
- B: smooth ER  
smooth ER
- C: mitochondria  
mitochondria
- D: nucleus  
nucleus

**Correct Alternative :- A**

21

Which of the following statement is false with respect to the action of thyroid hormone ?  
Which of the following statement is false with respect to the action of thyroid hormone ?

- A: Increase pentose phosphate pathway  
Increase pentose phosphate pathway
- B: Increase glycogenolysis  
Increase glycogenolysis
- C: Increase glycolysis  
Increase glycolysis
- D: Decrease gluconeogenesis

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Decrease gluconeogenesis

**Correct Alternative :- D**

22 The first penicillin isolated by Alexander Fleming, Penicillin F is also called :  
The first penicillin isolated by Alexander Fleming, Penicillin F is also called :

- A: 2-pentenyl penicillin  
2-pentenyl penicillin
- B: n-heptyl penicillin  
n-heptyl penicillin
- C: phenoxyethyl penicillin  
phenoxyethyl penicillin
- D: benzyl penicillin  
benzyl penicillin

**Correct Alternative :- A**

23 Which of the following Ascomycetes are used for riboflavin production ?  
Which of the following Ascomycetes are used for riboflavin production ?

- A: Candida guilliermondia  
Candida guilliermondia
- B: Candida flareri  
Candida flareri
- C: Ashbya gossypii  
Ashbya gossypii
- D: Clostridium butylicum  
Clostridium butylicum

**Correct Alternative :- C**

24 Which of the following is also called sac fungi ?  
Which of the following is also called sac fungi ?

- A: Zygomycota  
Zygomycota
- B: Ascomycota  
Ascomycota

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C: Basidiomycota

Basidiomycota

D: Deuteromycota

Deuteromycota

**Correct Alternative :- B**

25

DNA sequencing by Sanger's method involves the use of :

DNA sequencing by Sanger's method involves the use of :

A: Ribonucleotide

Ribonucleotide

B: 3'-deoxyribonucleotide

3'-deoxyribonucleotide

C: 2', 3'-dideoxyribonucleotide

2', 3'-dideoxyribonucleotide

D: Fluorodinitrobenzene

Fluorodinitrobenzene

**Correct Alternative :- C**

26

\_\_\_\_\_ is used for the detection and quantification of mRNA expression.

\_\_\_\_\_ is used for the detection and quantification of mRNA expression.

A: Multiple PCR

Multiple PCR

B: Nested PCR

Nested PCR

C: RT - PCR

RT - PCR

D: Real time PCR

Real time PCR

**Correct Alternative :- C**

27

Lysosomes function to :

Lysosomes function to :

A: Synthesize various cellular macromolecules

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Synthesize various cellular macromolecules

B: Carry out digestion of all cytosolic components  
Carry out digestion of all cytosolic components

C: Ingest material from the extracellular environment  
Ingest material from the extracellular environment

D: Recycle cellular material and digest material taken in from the environment  
Recycle cellular material and digest material taken in from the environment

**Correct Alternative :- B**

28 The peptidyl transferase activity resides in :  
The peptidyl transferase activity resides in :

A: 18 S rRNA  
18 S rRNA

B: 5 S rRNA  
5 S rRNA

C: 16 S rRNA  
16 S rRNA

D: 23 S rRNA  
23 S rRNA

**Correct Alternative :- D**

29 The antigenic determinants are in the hidden state in :  
The antigenic determinants are in the hidden state in :

A: Neoantigens  
Neoantigens

B: Alloantigens  
Alloantigens

C: Isoantigens  
Isoantigens

D: Cryptantigens  
Cryptantigens

**Correct Alternative :- D**

30 The part of an immunoglobulin which allows the two Fab arms to open and close to accommodate binding of two antigenic

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determinants is :

The part of an immunoglobulin which allows the two Fab arms to open and close to accommodate binding of two antigenic determinants is :

- A: Hinge region  
Hinge region
- B: Hyper variable region  
Hyper variable region
- C: Frame work region  
Frame work region
- D: FC region  
FC region

**Correct Alternative :- A**

31

The antibodies present on the surface of matured B cells are :

The antibodies present on the surface of matured B cells are :

- A: IgD and IgM  
IgD and IgM
- B: IgG and IgM  
IgG and IgM
- C: IgE and IgG  
IgE and IgG
- D: IgE and IgA  
IgE and IgA

**Correct Alternative :- A**

32

During T - helper cell activation, antigen presenting macrophage secrete the signalling molecule :

During T - helper cell activation, antigen presenting macrophage secrete the signalling molecule :

- A: IL - 1  
IL - 1
- B: IL - 2  
IL - 2
- C: IL - 6  
IL - 6
- D: IL - 4  
IL - 4

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**Correct Alternative :- A**

33

The natural antibodies which induce antigen-antibody reactions in human red blood cells belong to the type of :  
The natural antibodies which induce antigen-antibody reactions in human red blood cells belong to the type of :

- A: IgM and IgG  
IgM and IgG
- B: IgG and IgE  
IgG and IgE
- C: IgD and IgA  
IgD and IgA
- D: IgA and IgE  
IgA and IgE

**Correct Alternative :- A**

34

The production of adventitious root, shoot and flowers from cells of tissue culture is termed :  
The production of adventitious root, shoot and flowers from cells of tissue culture is termed :

- A: Organogenesis  
Organogenesis
- B: Microppropagation  
Microppropagation
- C: Callus culture  
Callus culture
- D: Suspension culture  
Suspension culture

**Correct Alternative :- A**

35

Which of the following is not correct in predicting ovulation time?  
Which of the following is not correct in predicting ovulation time?

- A: Plasma progesterone concentration  
Plasma progesterone concentration
- B: Administration of clomiphene  
Administration of clomiphene
- C: Assay of LH in urine

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Assay of LH in urine

D: Changes in the level of  $17\beta$  estradiol  
Changes in the level of  $17\beta$  estradiol

**Correct Alternative :- D**

36

The following conditions in cell culture promote cell differentiation.

(a) high serum  
(b) high growth factor  
(c) low cell density  
(d) low serum  
(e) high cell density  
(f) appropriate hormone Select the suitable condition.

The following conditions in cell culture promote cell differentiation.

(a) high serum  
(b) high growth factor  
(c) low cell density  
(d) low serum  
(e) high cell density  
(f) appropriate hormone Select the suitable condition.

A: (d), (e) and (f)  
(d), (e) and (f)  
B: (a), (b) and (c)  
(a), (b) and (c)  
C: (a), (e) and (f)  
(a), (e) and (f)  
D: (d), (b) and (c)  
(d), (b) and (c)

**Correct Alternative :- A**

37

The resolution limit of electron microscopy is \_\_\_\_\_.

The resolution limit of electron microscopy is \_\_\_\_\_.

A:  $0.2\text{ }\mu\text{m}$   
 $0.2\text{ }\mu\text{m}$   
B:  $0.5\text{ }\mu\text{m}$   
 $0.5\text{ }\mu\text{m}$   
C:  $1\text{ nm}$   
 $1\text{ nm}$   
D:  $0.1\text{ nm}$   
 $0.1\text{ nm}$

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**Correct Alternative :- C**

38

The sensitivity of fluorescence detector in HPLC is :  
The sensitivity of fluorescence detector in HPLC is :

- A:  $10^{29} \text{ g cm}^{22}$   
 $10^{29} \text{ g cm}^{22}$
- B:  $10^{220} \text{ mg cm}^{23}$   
 $10^{220} \text{ mg cm}^{23}$
- C:  $10^{212} \text{ mg cm}^{23}$   
 $10^{212} \text{ mg cm}^{23}$
- D:  $10^{212} \text{ g cm}^{23}$   
 $10^{212} \text{ g cm}^{23}$

**Correct Alternative :- D**

39

Ultracentrifugation can characterize biological molecules with particle concentrations of :  
Ultracentrifugation can characterize biological molecules with particle concentrations of :

- A:  $1 - 10 \text{ mg dm}^{23}$   
 $1 - 10 \text{ mg dm}^{23}$
- B:  $0.01 - 1 \text{ mg dm}^{23}$   
 $0.01 - 1 \text{ mg dm}^{23}$
- C:  $0.1 - 1 \text{ g dm}^{23}$   
 $0.1 - 1 \text{ g dm}^{23}$
- D:  $0.01 - 1 \text{ g dm}^{23}$   
 $0.01 - 1 \text{ g dm}^{23}$

**Correct Alternative :- D**

40

The fluorophore, tetramethylrhodamine in fluorescence microscopy has an emission maximum at :  
The fluorophore, tetramethylrhodamine in fluorescence microscopy has an emission maximum at :

- A: 554 nm  
554 nm
- B: 576 nm  
576 nm
- C: 592 nm

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592 nm  
D: 652 nm  
652 nm

**Correct Alternative :- B**

41 High-resolution spectra of NMR can be obtained by spinning the solid sample at :  
High-resolution spectra of NMR can be obtained by spinning the solid sample at :

A: 54.78  
54.78  
B: 35.78  
35.78  
C: 180.38  
180.38  
D: 60.58  
60.58

**Correct Alternative :- A**

42 The common anomer of D-fructose is :  
The common anomer of D-fructose is :

A: L-Fructose  
L-Fructose  
B:  $\beta$ -D-fructofuranose  
 $\beta$ -D-fructofuranose  
C:  $\beta$ -L-fructofuranose  
 $\beta$ -L-fructofuranose  
D: D-sorbose  
D-sorbose

**Correct Alternative :- B**

43 The one letter code for amino acids was devised by :  
The one letter code for amino acids was devised by :

A: Edman  
Edman

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B: Sanger  
Sanger  
C: Merrifield  
Merrifield  
D: Dayhoff  
Dayhoff

**Correct Alternative :- D**

44

N6-methyladenosine is normally present in :  
N6-methyladenosine is normally present in :

A: DNA of animals  
DNA of animals  
B: DNA of bacteria  
DNA of bacteria  
C: DNA of plants  
DNA of plants  
D: DNA of bacteria and bacteriophages  
DNA of bacteria and bacteriophages

**Correct Alternative :- B**

45

All of the following are features of 2, 3 - BPG except :  
All of the following are features of 2, 3 - BPG except :

A: BPG stabilizes oxygenated form.  
BPG stabilizes oxygenated form.  
B: Formed from glycolytic intermediate.  
Formed from glycolytic intermediate.  
C: One molecule of BPG is bound per tetramer of hemoglobin.  
One molecule of BPG is bound per tetramer of hemoglobin.  
D: BPG forms salt bridges between its oxygen atoms and both beta chains.  
BPG forms salt bridges between its oxygen atoms and both beta chains.

**Correct Alternative :- A**

46

Carbamoyl phosphate synthase II function in :  
Carbamoyl phosphate synthase II function in :

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- A: pyrimidine biosynthesis  
pyrimidine biosynthesis
- B: urea synthesis  
urea synthesis
- C: purine biosynthesis  
purine biosynthesis
- D: uric acid biosynthesis  
uric acid biosynthesis

**Correct Alternative :- A**

47 Dehydratases are major subclass of which one of the following enzyme classes ?  
Dehydratases are major subclass of which one of the following enzyme classes ?

- A: Isomerases  
Isomerases
- B: Hydrolases  
Hydrolases
- C: Lyases  
Lyases
- D: Oxidoreductases  
Oxidoreductases

**Correct Alternative :- C**

48 Pick out the non-lipid cardiac risk factors from the following pair of markers.  
Pick out the non-lipid cardiac risk factors from the following pair of markers.

- A: Homocysteine and Homoserine  
Homocysteine and Homoserine
- B: Homocysteine and Creatinine  
Homocysteine and Creatinine
- C: CRP and Homoserine  
CRP and Homoserine
- D: CRP and Homocysteine  
CRP and Homocysteine

**Correct Alternative :- D**

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49 Which of the following protein oxidizes ferrous iron to ferric ion at the intestinal abluminal membrane ?  
Which of the following protein oxidizes ferrous iron to ferric ion at the intestinal abluminal membrane ?

- A: Ferroportin  
Ferroportin
- B: Hepsaestin  
Hepsaestin
- C: Ceruloplasmin  
Ceruloplasmin
- D: Transferrin  
Transferrin

**Correct Alternative :- B**

50 Which of the following vitamin has been used to increase HDL cholesterol level in the blood ?  
Which of the following vitamin has been used to increase HDL cholesterol level in the blood ?

- A: Vitamin B<sub>1</sub>  
Vitamin B<sub>1</sub>
- B: Vitamin B<sub>3</sub>  
Vitamin B<sub>3</sub>
- C: Vitamin B<sub>6</sub>  
Vitamin B<sub>6</sub>
- D: Vitamin B<sub>12</sub>  
Vitamin B<sub>12</sub>

**Correct Alternative :- B**

51 Most of the Bilirubin excreted in bile is in the form of :  
Most of the Bilirubin excreted in bile is in the form of :

- A: Bilirubin monoglucuronide  
Bilirubin monoglucuronide
- B: Biliverdin monoglucuronide  
Biliverdin monoglucuronide
- C: Biliverdin diglucuronide  
Biliverdin diglucuronide
- D: Bilirubin diglucuronide

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Bilirubin diglucuronide

**Correct Alternative :- D**

52 \_\_\_\_\_ is due to defect in uptake of Bilirubin by liver parenchymal cells.  
\_\_\_\_\_ is due to defect in uptake of Bilirubin by liver parenchymal cells.

- A: Crigler Najjar syndrome  
Crigler Najjar syndrome
- B: Dubin Johnson syndrome  
Dubin Johnson syndrome
- C: Gilbert's disease  
Gilbert's disease
- D: Rotor syndrome  
Rotor syndrome

**Correct Alternative :- C**

53 Defect in the LDL receptor gene causes :  
Defect in the LDL receptor gene causes :

- A: Familial combined Hyperlipidemia  
Familial combined Hyperlipidemia
- B: Familial Hypertriglyceridemia  
Familial Hypertriglyceridemia
- C: Hyper chylomicronemia  
Hyper chylomicronemia
- D: Familial Hyper cholesterolemia  
Familial Hyper cholesterolemia

**Correct Alternative :- D**

54 Which of the following amino acids would most likely be found in a membrane-spanning a helix :  
Which of the following amino acids would most likely be found in a membrane-spanning a helix :

- A: Lysine  
Lysine
- B: Glutamine  
Glutamine

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C: Alanine

Alanine

D: Arginine

Arginine

**Correct Alternative :- C**

55 Which of the following bacterial types belong to Legionellaceae family ?  
Which of the following bacterial types belong to Legionellaceae family ?

A: Facultatively anaerobic Gram negative rods.

Facultatively anaerobic Gram negative rods.

B: Anaerobic Gram negative, straight, curved and helical rods.

Anaerobic Gram negative, straight, curved and helical rods.

C: Gram negative Aerobic rods and Cocci.

Gram negative Aerobic rods and Cocci.

D: Anaerobic Gram negative Cocci.

Anaerobic Gram negative Cocci.

**Correct Alternative :- C**

56 Which of the following microorganism yields highest vitamin B<sub>12</sub> ?  
Which of the following microorganism yields highest vitamin B<sub>12</sub> ?

A: Pseudomonas denitrificians

Pseudomonas denitrificians

B: Streptomyces olivaceus

Streptomyces olivaceus

C: Propionibacterium shermanii

Propionibacterium shermanii

D: Bacillus megaterium

Bacillus megaterium

**Correct Alternative :- A**

57 In which of the following settling process during primary treatment of water, the concentration of particles increases from top to bottom and resulting in the thickening of sludge :  
In which of the following settling process during primary treatment of water, the concentration of particles increases from top to bottom and resulting in the thickening of sludge :

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- A: Flocculant sludge  
Flocculant sludge
- B: Discrete settling  
Discrete settling
- C: Compression settling  
Compression settling
- D: Hindered settling  
Hindered settling

**Correct Alternative :- D**

58 Fungi prefer to grow in which of the following pH of the soil ?  
Fungi prefer to grow in which of the following pH of the soil ?

- A: 5 to 6  
5 to 6
- B: 7 to 8  
7 to 8
- C: Below 6  
Below 6
- D: Above 8  
Above 8

**Correct Alternative :- A**

59 DNA glycosylases are involved in which one of the following types of DNA repair system ?  
DNA glycosylases are involved in which one of the following types of DNA repair system ?

- A: mismatch repair  
mismatch repair
- B: nucleotide-excision repair  
nucleotide-excision repair
- C: base-excision repair  
base-excision repair
- D: direct repair  
direct repair

**Correct Alternative :- C**

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60

The antigen independent maturation of B cells in the bone marrow produces which of the following antibodies ?  
The antigen independent maturation of B cells in the bone marrow produces which of the following antibodies ?

- A: IgG and IgA  
IgG and IgA
- B: IgM and IgE  
IgM and IgE
- C: IgM and IgD  
IgM and IgD
- D: IgA and IgD  
IgA and IgD

**Correct Alternative :- C**

61

In RIA, antigen is generally labelled with \_\_\_\_\_.  
In RIA, antigen is generally labelled with \_\_\_\_\_.  
In RIA, antigen is generally labelled with \_\_\_\_\_.  
In RIA, antigen is generally labelled with \_\_\_\_\_.

- A: Gamma emitting isotopes only  
Gamma emitting isotopes only
- B: Beta emitting isotopes only  
Beta emitting isotopes only
- C: Both Gamma and Beta emitting isotopes are used  
Both Gamma and Beta emitting isotopes are used
- D: Both Gamma and Beta emitting isotopes are not used  
Both Gamma and Beta emitting isotopes are not used

**Correct Alternative :- C**

62

Indicate which of the following statement is false.  
Indicate which of the following statement is false.

- A: Presence of HLA B27 allele is diagnostic for ankylosis spondylitis.  
Presence of HLA B27 allele is diagnostic for ankylosis spondylitis.
- B: TH1 cells are not involved in the development of autoimmunity.  
TH1 cells are not involved in the development of autoimmunity.
- C: TH2 cells appear to block development of autoimmune disease.  
TH2 cells appear to block development of autoimmune disease.
- D: Inappropriate Class-II MHC expression on cells may induce autoimmunity.  
Inappropriate Class-II MHC expression on cells may induce autoimmunity.

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**Correct Alternative :- B**

63

Which of the following statement is false with respect to antibody isotype switching ?  
Which of the following statement is false with respect to antibody isotype switching ?

- A: Does not affect antigen specificity of antibody.  
Does not affect antigen specificity of antibody.
- B: Does affect antigen specificity.  
Does affect antigen specificity.
- C: Retains antigen affinity.  
Retains antigen affinity.
- D: Allows interaction with effector molecule.  
Allows interaction with effector molecule.

**Correct Alternative :- B**

64

When plated in nutrient medium how much time is required for the protoplast to synthesize new cell wall ?  
When plated in nutrient medium how much time is required for the protoplast to synthesize new cell wall ?

- A: 5-10 days  
5-10 days
- B: 10-15 days  
10-15 days
- C: 15-17 days  
15-17 days
- D: 2-5 days  
2-5 days

**Correct Alternative :- D**

65

Which of these established cell lines originate from a mouse embryo ?  
Which of these established cell lines originate from a mouse embryo ?

- A: BHK  
BHK
- B: HeLa  
HeLa
- C: Hep-2  
Hep-2

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D: 3T3 A

3T3 A

**Correct Alternative :- D**

66

The repeating unit of starch is :

The repeating unit of starch is :

A: Maltose

Maltose

B: Cellobiose

Cellobiose

C: Glucose

Glucose

D: Cellulose

Cellulose

**Correct Alternative :- A**

67

Reverse Phase partition HPLC is particularly useful for separation of \_\_\_\_\_ compounds.

Reverse Phase partition HPLC is particularly useful for separation of \_\_\_\_\_ compounds.

A: Polar

Polar

B: Non Polar

Non Polar

C: Neutral

Neutral

D: Quaternary

Quaternary

**Correct Alternative :- A**

68

Which sub-unit of the trimeric G-protein acts as GTPase switch ?

Which sub-unit of the trimeric G-protein acts as GTPase switch ?

A: Alpha

Alpha

B: Beta

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Beta  
C: Gamma  
Gamma  
D: Beta-gamma  
Beta-gamma

**Correct Alternative :- A**

69 Teichoic acid contains alternating residues of D alanine and \_\_\_\_\_.  
Teichoic acid contains alternating residues of D alanine and \_\_\_\_\_.

A: Glucosamine  
Glucosamine  
B: N-acetyl glucosamine  
N-acetyl glucosamine  
C: Galactosamine  
Galactosamine  
D: N-acetyl galactosamine  
N-acetyl galactosamine

**Correct Alternative :- B**

70 The Induced fit model of enzyme action was proposed by \_\_\_\_\_.  
The Induced fit model of enzyme action was proposed by \_\_\_\_\_.  
\_\_\_\_\_.

A: Fischer  
Fischer  
B: Khoshland  
Khoshland  
C: Sanger  
Sanger  
D: Paul  
Paul

**Correct Alternative :- B**

71 The term facultative anaerobic organisms refers to those that :  
The term facultative anaerobic organisms refers to those that :

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A: does not use oxygen but tolerate it  
does not use oxygen but tolerate it

B: is killed by oxygen  
is killed by oxygen

C: use oxygen when present or even grows without oxygen when absent  
use oxygen when present or even grows without oxygen when absent

D: requires less oxygen than is present in air  
requires less oxygen than is present in air

**Correct Alternative :- C**

72

Secondary Sewage treatment is mainly a :  
Secondary Sewage treatment is mainly a :

A: Biological process  
Biological process

B: Mechanical process  
Mechanical process

C: Physical process  
Physical process

D: Chemical process  
Chemical process

**Correct Alternative :- A**

73

Which of these plant growth regulators determines callus development ?  
Which of these plant growth regulators determines callus development ?

A: auxin and cytokinin  
auxin and cytokinin

B: auxin and ethylene  
auxin and ethylene

C: auxin and abscisic acid  
auxin and abscisic acid

D: cytokinins and gibberellins  
cytokinins and gibberellins

**Correct Alternative :- A**

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74

\_\_\_\_\_ multiply by budding.  
\_\_\_\_\_ multiply by budding.

- A: Fungi  
Fungi
- B: Viruses  
Viruses
- C: Yeast  
Yeast
- D: Actinomycetes  
Actinomycetes

**Correct Alternative :- C**

75

Which of the following enables a cell to pick-up and concentrate a specific kind of molecule ?  
Which of the following enables a cell to pick-up and concentrate a specific kind of molecule ?

- A: Passive transport  
Passive transport
- B: Diffusion  
Diffusion
- C: Osmosis  
Osmosis
- D: Receptor mediated endocytosis  
Receptor mediated endocytosis

**Correct Alternative :- D**

76

DNA segments are analysed by :  
DNA segments are analysed by :

- A: Northern Blotting  
Northern Blotting
- B: Southern Blotting  
Southern Blotting
- C: Polymerase Chain Reaction  
Polymerase Chain Reaction
- D: Western Blotting  
Western Blotting

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**Correct Alternative :- B**

77

The most common indicator in animal cell culture medium is :

The most common indicator in animal cell culture medium is :

- A: rose bengal  
rose bengal
- B: bromocresol purple  
bromocresol purple
- C: phenol red  
phenol red
- D: crimson orange  
crimson orange

**Correct Alternative :- C**

78

The light chains of IgS are :

The light chains of IgS are :

- A: Either kappa or lambda type  
Either kappa or lambda type
- B: kappa and lambda types in the ratio of 1:1  
kappa and lambda types in the ratio of 1:1
- C: a mixture of kappa and lambda types in the ratio of 2:1  
a mixture of kappa and lambda types in the ratio of 2:1
- D: made up of only lambda chains  
made up of only lambda chains

**Correct Alternative :- A**

79

In eukaryotes, the RNA capped in 5' terminus is :

In eukaryotes, the RNA capped in 5' terminus is :

- A: tRNA  
tRNA
- B: mRNA  
mRNA
- C: rRNA  
rRNA

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D: hnRNA

hnRNA

**Correct Alternative :- B**

80 Error free repair of double strand breaks in DNA is accomplished by :  
Error free repair of double strand breaks in DNA is accomplished by :

A: Non-homologous end joining

Non-homologous end joining

B: Base excision repair

Base excision repair

C: Homologous recombination

Homologous recombination

D: Both Non-homologous end joining and Homologous recombination

Both Non-homologous end joining and Homologous recombination

**Correct Alternative :- D**

81 The region for estimating protein by Circular Dichroism is \_\_\_\_\_.  
The region for estimating protein by Circular Dichroism is \_\_\_\_\_.  
\_\_\_\_\_.

A: 400 nm

400 nm

B: 200 nm

200 nm

C: 700 nm

700 nm

D: 500 nm

500 nm

**Correct Alternative :- B**

82 The standard redox potential of few oxidants are given below. Choose their sequence of arrangement in the inner mitochondrial membrane for electron flow.

P = +0.82, Q = +0.22, R = -0.32, S = +0.10

The standard redox potential of few oxidants are given below. Choose their sequence of arrangement in the inner mitochondrial membrane for electron flow.

P = +0.82, Q = +0.22, R = -0.32, S = +0.10

A: PQRS

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PQRS

B: PRQS

PRQS

C: SRQP

SRQP

D: RSQP

RSQP

**Correct Alternative :- D**

83

\_\_\_\_\_ are the two enzymes that are useful as diagnostic indicator of skeletal muscle disorders.

\_\_\_\_\_ are the two enzymes that are useful as diagnostic indicator of skeletal muscle disorders.

A: Creatine kinase; fructose bisphosphate aldolase

Creatine kinase; fructose bisphosphate aldolase

B: Hexokinase; Glucose 6' phosphatase

Hexokinase; Glucose 6' phosphatase

C:  $\alpha$  amylase; creatine kinase

$\alpha$  amylase; creatine kinase

D: Glucokinase; hexokinase

Glucokinase; hexokinase

**Correct Alternative :- A**

84

Some aminoacids which destabilize  $\alpha$ -helix of proteins are :

Some aminoacids which destabilize  $\alpha$ -helix of proteins are :

A: Ala, His, Val

Ala, His, Val

B: Met, Tyr, Try

Met, Tyr, Try

C: Ser, Thr, Lys

Ser, Thr, Lys

D: Gln, Asn, Cys

Gln, Asn, Cys

**Correct Alternative :- C**

85

Lactate Dehydrogenase is a \_\_\_\_\_.

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Lactate Dehydrogenase is a \_\_\_\_\_.

- A: Trimer  
Trimer
- B: Tetramer  
Tetramer
- C: Dimer  
Dimer
- D: Pentamer  
Pentamer

**Correct Alternative :- B**

86

Artificial seeds are :

Artificial seeds are :

- A: Seeds produced in laboratory condition.  
Seeds produced in laboratory condition.
- B: Somatic embryo encapsulated in a gel.  
Somatic embryo encapsulated in a gel.
- C: Seeds encapsulated in a gel.  
Seeds encapsulated in a gel.
- D: Zygotic embryo encapsulated in a gel.  
Zygotic embryo encapsulated in a gel.

**Correct Alternative :- B**

87

Urinary excretion of Bence-zone's protein is common in patients with :

Urinary excretion of Bence-zone's protein is common in patients with :

- A: Pheochromocytoma  
Pheochromocytoma
- B: multiple mycloma  
multiple mycloma
- C: kidney bladder cancer  
kidney bladder cancer
- D: hypo albuminemia  
hypo albuminemia

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**Correct Alternative :- B**

88

Inherited absence of bilirubin UDP-glucuronyl transferase in hepatic tissue leads to the clinical condition in which serum bilirubin usually exceeds 20 mg/dl is :

Inherited absence of bilirubin UDP-glucuronyl transferase in hepatic tissue leads to the clinical condition in which serum bilirubin usually exceeds 20 mg/dl is :

- A: Crigler-Najjar syndrome- Type I  
Crigler-Najjar syndrome- Type I
- B: Crigler - Najjar syndrome - Type II  
Crigler - Najjar syndrome - Type II
- C: Gilbert's disease  
Gilbert's disease
- D: Dubin-Johnson syndrome  
Dubin-Johnson syndrome

**Correct Alternative :- A**

89

Which of the following steps in protein synthesis in prokaryotes is false ?

Which of the following steps in protein synthesis in prokaryotes is false ?

- A: Binding of tRNA to a 30S particle  
Binding of tRNA to a 30S particle
- B: Binding of tRNA to a 70S particle  
Binding of tRNA to a 70S particle
- C: Coupling of an amino acid to ribosome by an amino acyl synthetase  
Coupling of an amino acid to ribosome by an amino acyl synthetase
- D: Separation of the 70S ribosomes to form 30S and 50S particles  
Separation of the 70S ribosomes to form 30S and 50S particles

**Correct Alternative :- C**

90

Immunological precipitation reaction takes place when homologous antibodies are made to react with :

Immunological precipitation reaction takes place when homologous antibodies are made to react with :

- A: Insoluble antigens  
Insoluble antigens
- B: Soluble antigens  
Soluble antigens

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C: Carriers  
Carriers

D: Both soluble and insoluble antigens  
Both soluble and insoluble antigens

**Correct Alternative :- B**

91 The sugars associated with diabetic cataract in human eye lens are :  
The sugars associated with diabetic cataract in human eye lens are :

A: fructose and sorbitol  
fructose and sorbitol

B: glucose and ribose  
glucose and ribose

C: fructose and glucose  
fructose and glucose

D: fructose and galactose  
fructose and galactose

**Correct Alternative :- A**

92 Immediate type hypersensitivity reactions are mediated by :  
Immediate type hypersensitivity reactions are mediated by :

A: only IgE  
only IgE

B: either IgE or IgG and IgM  
either IgE or IgG and IgM

C: only IgG and IgM  
only IgG and IgM

D: only IgM  
only IgM

**Correct Alternative :- B**

93 The enzyme deficiency in phenylketonuria is \_\_\_\_\_.  
The enzyme deficiency in phenylketonuria is \_\_\_\_\_.

A: Glucose 6-phosphatase

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Glucose 6-phosphatase  
B: Alkaline phosphatase  
Alkaline phosphatase  
C: Phenylalanine 4-monoxygenase  
Phenylalanine 4-monoxygenase  
D: Glucocerebrosidase  
Glucocerebrosidase

**Correct Alternative :- C**

94 The inhibitor of translation which is analogous to amino acyl tRNA and inhibits elongation process :  
The inhibitor of translation which is analogous to amino acyl tRNA and inhibits elongation process :

A: Puromycin  
Puromycin  
B: Tetracycline  
Tetracycline  
C: Streptomycin  
Streptomycin  
D: Fusidic acid  
Fusidic acid

**Correct Alternative :- A**

95 Eadie-Hofstee plot is obtained by plotting :  
Eadie-Hofstee plot is obtained by plotting :

A:  $V$     $V_s$     $\frac{V}{S}$

B:  $\frac{V}{(S)}$     $V_s$     $V$

C:  $\frac{V}{S}$     $V_s$     $S$

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D: S Vs  $\checkmark$ S

**Correct Alternative :- B**

96

The polysaccharide found in tubers and roots of dahlias is :

The polysaccharide found in tubers and roots of dahlias is :

A: Cellulose

Cellulose

B: Chitin

Chitin

C: Glycogen

Glycogen

D: Inulin

Inulin

**Correct Alternative :- D**

97

The hybridoma technique of antibody production was developed by :

The hybridoma technique of antibody production was developed by :

A: Kohler and Milesteine

Kohler and Milesteine

B: Onchterlony

Onchterlony

C: Edwar Jenner

Edwar Jenner

D: Berson and Yallow

Berson and Yallow

**Correct Alternative :- A**

98

Macrophage-like cells present in connective tissue are called as :

Macrophage-like cells present in connective tissue are called as :

A: Kupffer cells

Kupffer cells

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- B: Histiocytes  
Histiocytes
- C: Mesengial cells  
Mesengial cells
- D: Microglial cells  
Microglial cells

**Correct Alternative :- B**

99 Riboflavin is a by-product of \_\_\_\_\_ fermentation carried out by clostridium spp.  
Riboflavin is a by-product of \_\_\_\_\_ fermentation carried out by clostridium spp.

- A: citric acid  
citric acid
- B: acetone butanol  
acetone butanol
- C: ethanol  
ethanol
- D: streptomycin  
Streptomycin

**Correct Alternative :- B**

100 The maximum concentration of ethanol that is achieved by successive distillation of fermentation broth in continuous stills is :  
The maximum concentration of ethanol that is achieved by successive distillation of fermentation broth in continuous stills is :

- A: 70%  
70%
- B: 95%  
95%
- C: 60%  
60%
- D: 99%  
99%

**Correct Alternative :- B**

101 To identify carboxy terminal aminoacids in peptides, the reagent used is :  
To identify carboxy terminal aminoacids in peptides, the reagent used is :

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- A: Hydrazine  
Hydrazine
- B: Dansyl chloride  
Dansyl chloride
- C: 1-fluro-2, 4 dinitro benzene  
1-fluro-2, 4 dinitro benzene
- D: Phenyl Isothiocyanate  
Phenyl Isothiocyanate

**Correct Alternative :- A**

102 The cytosolic NADH transported by Aspartate-Malate shuttle enters the respiratory chain at the level of :  
The cytosolic NADH transported by Aspartate-Malate shuttle enters the respiratory chain at the level of :

- A: NADH-Q reductase  
NADH-Q reductase
- B: Ubiquinone  
Ubiquinone
- C: Cytochrome - C  
Cytochrome - C
- D: Cytochrome C-oxidase  
Cytochrome C-oxidase

**Correct Alternative :- A**

103 Catalytic antibodies with structural complementarity for enzyme catalysed reaction is \_\_\_\_\_.  
Catalytic antibodies with structural complementarity for enzyme catalysed reaction is \_\_\_\_\_.  
\_\_\_\_\_.

- A: Ribozymes  
Ribozymes
- B: Abzymes  
Abzymes
- C: Liposomes  
Liposomes
- D: Isoenzymes  
Isoenzymes

**Correct Alternative :- B**

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104

Which of these statement is incorrect with respect to epigenetic changes during somoclonal variation ?  
Which of these statement is incorrect with respect to epigenetic changes during somoclonal variation ?

- A: alteration in chromosome number
  - alteration in chromosome number
- B: alteration in DNA sequence
  - alteration in DNA sequence
- C: alteration in the expression of genome
  - alteration in the expression of genome
- D: alteration in the chromosome structure
  - alteration in the chromosome structure

**Correct Alternative :- B**

105

Analogous of lactose, which are effective inducer without being the substrate for  $\beta$ -galactosidase are called :  
Analogous of lactose, which are effective inducer without being the substrate for  $\beta$ -galactosidase are called :

- A: gratuitous inducers
  - gratuitous inducers
- B: activators
  - activators
- C: inducers
  - inducers
- D: co-activators
  - co-activators

**Correct Alternative :- A**

106

Which of the following is not a condition that leads to ketosis ?  
Which of the following is not a condition that leads to ketosis ?

- A: Starvation
  - Starvation
- B: Uncontrolled Diabetes Mellitus
  - Uncontrolled Diabetes Mellitus
- C: High carbohydrate diet
  - High carbohydrate diet
- D: Von-Gierke's disease

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Von-Gierke's disease

**Correct Alternative :- C**

107

The antigens with molecular weight greater than 6000 daltons :

The antigens with molecular weight greater than 6000 daltons :

- A: are not immunogenic  
are not immunogenic
- B: are generally immunogenic  
are generally immunogenic
- C: may or may not be immunogenic  
may or may not be immunogenic
- D: act as haptens  
act as haptens

**Correct Alternative :- B**

108

Which of the following hormone exert a lipotropic effect in liver ?

Which of the following hormone exert a lipotropic effect in liver ?

- A: Estrogen  
Estrogen
- B: Thyroid hormone  
Thyroid hormone
- C: Insulin  
Insulin
- D: ACTH  
ACTH

**Correct Alternative :- A**

109

The reason urine does not seep out of the bladder is due to the role of :

The reason urine does not seep out of the bladder is due to the role of :

- A: adherens junctions  
adherens junctions
- B: hemidesmosomes  
hemidesmosomes

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C: gap junction

gap junction

D: tight junction

tight junction

**Correct Alternative :- D**

110

If sheep red blood cells coated with IgG antibodies are mixed with \_\_\_\_\_ cells, Rosette formation occurs.

If sheep red blood cells coated with IgG antibodies are mixed with \_\_\_\_\_ cells, Rosette formation occurs.

A: Plasma cells

Plasma cells

B: T-helper cells

T-helper cells

C: T - suppressor cells

T - suppressor cells

D: B - cells

B - cells

**Correct Alternative :- D**

111

Which one of the following planets rises few hours before Sunrise ?

Which one of the following planets rises few hours before Sunrise ?

A: Jupiter

Jupiter

B: Mars

Mars

C: Venus

Venus

D: Uranus

Uranus

**Correct Alternative :- C**

112

Bokaro Steel Plant is located in :

Bokaro Steel Plant is located in :

A: Jharkhand

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Jharkhand

B: Odisha

Odisha

C: West Bengal

West Bengal

D: Bihar

Bihar

**Correct Alternative :- A**

113

Which gas is present more in air ?

Which gas is present more in air ?

A: Oxygen

Oxygen

B: Carbon-di-oxide

Carbon-di-oxide

C: Nitrogen

Nitrogen

D: Hydrogen

Hydrogen

**Correct Alternative :- C**

114

Leakage of LPG gas in our homes can be detected by mixing it with \_\_\_\_\_.

Leakage of LPG gas in our homes can be detected by mixing it with \_\_\_\_\_.

A: Methane

Methane

B: Methane + little ethane

Methane + little ethane

C: Propane + butane

Propane + butane

D: Ethyl mercaptan

Ethyl mercaptan

**Correct Alternative :- D**

115

Which of the following process, does not require a medium ?

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Which of the following process, does not require a medium ?

A: Convection

Convection

B: Conduction

Conduction

C: Radiation

Radiation

D: All of these

All of these

**Correct Alternative :- C**

116

During the period of \_\_\_\_\_ the Nalanda University was established.

During the period of \_\_\_\_\_ the Nalanda University was established.

A: Kumara Gupta

Kumara Gupta

B: Chandra Gupta Maurya

Chandra Gupta Maurya

C: II Chandra Gupta

II Chandra Gupta

D: Samudra Gupta

Samudra Gupta

**Correct Alternative :- A**

117

What is the full form of 'RIELIT' ?

What is the full form of 'RIELIT' ?

A: Regional Institute for English Language and Information Technology

Regional Institute for English Language and Information Technology

B: Rehabilitation and Training

Rehabilitation and Training

C: Regional Institute of e-learning and Information Technology

Regional Institute of e-learning and Information Technology

D: Research Institute for English Literature

Research Institute for English Literature

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## Correct Alternative :- C

118

During Second Carnatic War whom the French supported ?

- A: Muza Far Sung, Muhammed Ali  
Muza Far Sung, Muhammed Ali
- B: Nazirsung, Anwaruddin  
Nazirsung, Anwaruddin
- C: Muzafar Sung, Chandasaheeb  
Muzafar Sung, Chandasaheeb
- D: Muzafar Sung, Anwaruddin  
Muzafar Sung, Anwaruddin

**Correct Alternative :- C**

119

Expansion of VVPAT \_\_\_\_\_.

- A: Voters Verified Paper Account Trail  
Voters Verified Paper Account Trail
- B: Voters Verified Paperless Account Trail  
Voters Verified Paperless Account Trail
- C: Voters Verified Paperless Audit Trail  
Voters Verified Paperless Audit Trail
- D: Voters Verified Paper Audit Trail  
Voters Verified Paper Audit Trail

## Correct Alternative :- D

120

The country which is called the "Museum of Human Race" :  
The country which is called the "Museum of Human Race" :

- A: Malaysia
- Malaysia
- B: Switzerland
- Switzerland
- C: India
- India

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D: Japan

Japan

**Correct Alternative :- C**

121

The name Stephen M. Corey is associated with \_\_\_\_\_.

The name Stephen M. Corey is associated with \_\_\_\_\_.

A: Action Research

Action Research

B: Instructional designing

Instructional designing

C: e-content designing and development

e-content designing and development

D: Mobile learning

Mobile learning

**Correct Alternative :- A**

122

Difficulty in learning and remembering names, telephone numbers, multiplication tables but possible good performances in analytic and intuitive tasks that do not involve memory, these can be categorized under \_\_\_\_\_.

Difficulty in learning and remembering names, telephone numbers, multiplication tables but possible good performances in analytic and intuitive tasks that do not involve memory, these can be categorized under \_\_\_\_\_.

A: Poor ability to combine movement and vision

Poor ability to combine movement and vision

B: Poor grasp of sequence

Poor grasp of sequence

C: Gaps in general knowledge

Gaps in general knowledge

D: Problems in style of learning

Problems in style of learning

**Correct Alternative :- D**

123

\_\_\_\_\_ denotes the law or science of work. The study of a specific kind of behaviour : that of a man making a programmed physical or mental effort in return for some remuneration.

\_\_\_\_\_ denotes the law or science of work. The study of a specific kind of behaviour : that of a man making a programmed physical or mental effort in return for some remuneration.

A: Cybernetics

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Cybernetics

B: Devaluation

Devaluation

C: Synergism

Synergism

D: Ergonomics

Ergonomics

**Correct Alternative :- D**

124

In the skill of probing questions \_\_\_\_\_ component represents that, 'questions which seek from the pupil to compare the phenomenon with other phenomenon for similarity or contrast or for any other relationship'.

In the skill of probing questions \_\_\_\_\_ component represents that, 'questions which seek from the pupil to compare the phenomenon with other phenomenon for similarity or contrast or for any other relationship'.

A: Prompting (P)

Prompting (P)

B: Seeking Further Information (SFI)

Seeking Further Information (SFI)

C: Re-Focussing (RF)

Re-Focussing (RF)

D: Increasing Critical Awareness (ICA)

Increasing Critical Awareness (ICA)

**Correct Alternative :- C**

125

The Government of India appointed a committee on Correspondence Courses and evening colleges in 1961 under the chairmanship of \_\_\_\_\_.

The Government of India appointed a committee on Correspondence Courses and evening colleges in 1961 under the chairmanship of \_\_\_\_\_.

A: K.L. Shrimali

K.L. Shrimali

B: V.V. Giri

V.V. Giri

C: D.S. Kothari

D.S. Kothari

D: Prof. M.V. Mathur

Prof. M.V. Mathur

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**Correct Alternative :- A**

126 Which concept will be mostly formed when celebration of festivals is taught in class ?  
Which concept will be mostly formed when celebration of festivals is taught in class ?

- A: Number  
Number
- B: Social environment  
Social environment
- C: Physical environment  
Physical environment
- D: Colour  
Colour

**Correct Alternative :- B**

127 In \_\_\_\_\_ reinforcement schedule the organism is rewarded for a response made only after a span of time.  
In \_\_\_\_\_ reinforcement schedule the organism is rewarded for a response made only after a span of time.

- A: Continuous  
Continuous
- B: Fixed interval  
Fixed interval
- C: Fixed ratio  
Fixed ratio
- D: Variable  
Variable

**Correct Alternative :- B**

128 \_\_\_\_\_ has coined the phrase " learning set" to describe the phenomenon of learning how to learn.  
\_\_\_\_\_ has coined the phrase " learning set" to describe the phenomenon of learning how to learn.

- A: Harry Harlow  
Harry Harlow
- B: Charles Judd  
Charles Judd
- C: Ivan Pavlov  
Ivan Pavlov

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D: Alfred Binet

Alfred Binet

**Correct Alternative :- A**

129

In retrieval tasks, the tendency for items at the beginning and at the end of a list to be recalled more readily is called as

\_\_\_\_\_.

In retrieval tasks, the tendency for items at the beginning and at the end of a list to be recalled more readily is called as  
\_\_\_\_\_.

A: Recency effect

Recency effect

B: Serial position effect

Serial position effect

C: Primacy effect

Primacy effect

D: Latency effect

Latency effect

**Correct Alternative :- B**

130

Which theory emphasized in its hypothesis the role of the hippocampal formation and its close association with the amygdala ?  
Which theory emphasized in its hypothesis the role of the hippocampal formation and its close association with the amygdala ?

A: Maclean's theory of emotions

Maclean's theory of emotions

B: Papez's theory of emotions

Papez's theory of emotions

C: Arnold's theory of emotions

Arnold's theory of emotions

D: Schachter's theory of emotions

Schachter's theory of emotions

**Correct Alternative :- A**

131

\_\_\_\_\_ of the Indian Constitution deals with the promotion of educational and economic interest of the scheduled castes, scheduled tribes and other weaker sections.

\_\_\_\_\_ of the Indian Constitution deals with the promotion of educational and economic interest of the scheduled castes, scheduled tribes and other weaker sections.

A: Article 42

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A: Article 42  
B: Article 22  
Article 22  
C: Article 26  
Article 26  
D: Article 46  
Article 46

**Correct Alternative :- D**

132 Howard Gardner's Multiple Intelligence Theory describes \_\_\_\_\_ types of intelligence.  
Howard Gardner's Multiple Intelligence Theory describes \_\_\_\_\_ types of intelligence.

A: 6  
6  
B: 7  
7  
C: 8  
8  
D: 10  
10

**Correct Alternative :- C**

133 \_\_\_\_\_ popularized teaching machines in learning.  
\_\_\_\_\_ popularized teaching machines in learning.

A: Spearman  
Spearman  
B: Skinner  
Skinner  
C: Thorndike  
Thorndike  
D: Piaget  
Piaget

**Correct Alternative :- B**

134 \_\_\_\_\_ is an example of instrumental conditioning based on negative reinforcement.

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\_\_\_\_\_ is an example of instrumental conditioning based on negative reinforcement.

- A: Concept based learning  
Concept based learning
- B: Lateral learning  
Lateral learning
- C: Insightful learning  
Insightful learning
- D: Trial and error learning  
Trial and error learning

**Correct Alternative :- C**

135

\_\_\_\_\_ interest indicates a preference for meeting and dealing with people and promoting projects for things to sell.  
\_\_\_\_\_ interest indicates a preference for meeting and dealing with people and promoting projects for things to sell.

- A: Scientific  
Scientific
- B: Literary  
Literary
- C: Social service  
Social service
- D: Persuasive  
Persuasive

**Correct Alternative :- D**

136

NCERT conducted the second All India Educational Survey in the year \_\_\_\_\_.  
NCERT conducted the second All India Educational Survey in the year \_\_\_\_\_.  
\_\_\_\_\_

- A: 1965  
1965
- B: 1971  
1971
- C: 1972  
1972
- D: 1969  
1969

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**Correct Alternative :- A**

137

If a counsellor has recorded highly confidential information about a student, this record should be filed separately, this is done contextually and be termed as \_\_\_\_\_.

If a counsellor has recorded highly confidential information about a student, this record should be filed separately, this is done contextually and be termed as \_\_\_\_\_.

- A: Authenticity  
Authenticity
- B: Objectivity  
Objectivity
- C: Reliability  
Reliability
- D: Secrecy  
Secrecy

**Correct Alternative :- D**

138

Evaluation whether the diagnostic, formative (or) summative may play its role in exercising few functions related with devising of the teaching-learning tasks. This is related to \_\_\_\_\_.

Evaluation whether the diagnostic, formative (or) summative may play its role in exercising few functions related with devising of the teaching-learning tasks. This is related to \_\_\_\_\_.

- A: Motivational functions  
Motivational functions
- B: Planning functions  
Planning functions
- C: Informational or communicational functions  
Informational or communicational functions
- D: Decision making functions  
Decision making functions

**Correct Alternative :- B**

139

The chief principle of \_\_\_\_\_ philosophy is that man creates his own values; there are no fixed eternal truths.  
The chief principle of \_\_\_\_\_ philosophy is that man creates his own values; there are no fixed eternal truths.

- A: Realism  
Realism
- B: Existentialism

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Existentialism

C: Naturalism

Naturalism

D: Pragmatism

Pragmatism

**Correct Alternative :- D**

140

\_\_\_\_\_ is a type of fixation in which an individual tries to solve a problem in a particular way that has worked in the past.  
\_\_\_\_\_ is a type of fixation in which an individual tries to solve a problem in a particular way that has worked in the past.

A: Apperception

Apperception

B: Assimilation

Assimilation

C: Shaping

Shaping

D: Mental Set

Mental Set

**Correct Alternative :- D**

141

This test is used as an indicator of aptitude for bench work which involves rapid manipulation of objects :

This test is used as an indicator of aptitude for bench work which involves rapid manipulation of objects :

A: Finger Dexterity Test

Finger Dexterity Test

B: Clerical Ability Test

Clerical Ability Test

C: Mechanical Aptitude Test

Mechanical Aptitude Test

D: O' Connor's Wiggly Block Test

O' Connor's Wiggly Block Test

**Correct Alternative :- A**

142

In Herbartian approach to lesson planning \_\_\_\_\_ step is related with the task of strengthening the acquisition of new learning material.

In Herbartian approach to lesson planning \_\_\_\_\_ step is related with the task of strengthening the acquisition of new learning material.

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- A: Presentation  
Presentation
- B: Comparison (or) Association  
Comparison (or) Association
- C: Generalization  
Generalization
- D: Application  
Application

**Correct Alternative :- B**

143

The Constitution (86<sup>th</sup> amendment) Act of \_\_\_\_\_ year inserted \_\_\_\_\_ Article in the Constitution of India to provide free and compulsory education of all children in the age group of 6 to 14 years as a Fundamental right.  
The Constitution (86<sup>th</sup> amendment) Act of \_\_\_\_\_ year inserted \_\_\_\_\_ Article in the Constitution of India to provide free and compulsory education of all children in the age group of 6 to 14 years as a Fundamental right.

- A: 2001, Article 46  
2001, Article 46
- B: 2010, Article 12-A  
2010, Article 12-A
- C: 2009, Article 45-A  
2009, Article 45-A
- D: 2002, Article 21-A  
2002, Article 21-A

**Correct Alternative :- D**

144

Based on Gagne's hierarchy of learning, in \_\_\_\_\_ learning the learner acquires the ability to understand the common properties of a group of substances that might still vary from one another.  
Based on Gagne's hierarchy of learning, in \_\_\_\_\_ learning the learner acquires the ability to understand the common properties of a group of substances that might still vary from one another.

- A: Verbal association  
Verbal association
- B: Multiple discrimination  
Multiple discrimination
- C: Concept learning  
Concept learning
- D: Rule learning

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Rule learning

**Correct Alternative :- C**

145

The policy statement was made in Parliament on April 5, 1977 declaring that along with UEE, highest priority in educational planning would be accorded to \_\_\_\_\_.

The policy statement was made in Parliament on April 5, 1977 declaring that along with UEE, highest priority in educational planning would be accorded to \_\_\_\_\_.

- A: UPE  
UPE
- B: Secondary Education  
Secondary Education
- C: Higher Education  
Higher Education
- D: Adult Education  
Adult Education

**Correct Alternative :- D**

146

The teacher must provide identity between historical and present-day events is an example of :

The teacher must provide identity between historical and present-day events is an example of :

- A: The principle of multiple response  
The principle of multiple response
- B: The principle of mental set  
The principle of mental set
- C: The principle of partial activity  
The principle of partial activity
- D: The principle of assimilation  
The principle of assimilation

**Correct Alternative :- D**

147

UGC launched the \_\_\_\_\_ project on August 15, 1984.

UGC launched the \_\_\_\_\_ project on August 15, 1984.

- A: CIET  
CIET
- B: CWCR

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CWCR

C: SITE

SITE

D: PLAN

PLAN

**Correct Alternative :- B**

148

The \_\_\_\_\_ is a technique that provides the counsellor with an opportunity to understand a client's knowledge regarding a topic such as career information.

The \_\_\_\_\_ is a technique that provides the counsellor with an opportunity to understand a client's knowledge regarding a topic such as career information.

A: In take interviews

In take interviews

B: Guess who

Guess who

C: Sociometric

Sociometric

D: Card sort

Card sort

**Correct Alternative :- D**

149

"Behaviour that occurs at a naturally high rate of frequency may be used to reinforce behaviour that occurs at a naturally low rate of frequency" is :

"Behaviour that occurs at a naturally high rate of frequency may be used to reinforce behaviour that occurs at a naturally low rate of frequency" is :

A: Programmed instruction

Programmed instruction

B: Operant conditioning

Operant conditioning

C: Halo effect

Halo effect

D: Premack principle

Premack principle

**Correct Alternative :- D**

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- A: Ishwar Chandra Vidyasagar, 1901  
Ishwar Chandra Vidyasagar, 1901
- B: Swami Dayanand Saraswathi, 1875  
Swami Dayanand Saraswathi, 1875
- C: Sri Ramakrishna Mission, 1915  
Sri Ramakrishna Mission, 1915
- D: Annie Besant, 1898  
Annie Besant, 1898

## Correct Alternative :- D