



# BIOLOGY

## NEET & AIIMS

### MOCK\_TEST\_17

#### Example

1. Which of the following factor affect diffusion rate?

A. Gradient of concentration

B. Temperature and light

C. Permeability of the membranes

D. Both (1) and (3)

**Answer: D**



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2. Read the following statements and choose the correct ones---(A) Diffusion is a slow process and is dependent on a living system.

(B) Diffusion of substances with hydrophilic moiety is facilitated by membrane proteins. (C) Facilitated diffusion causes net transport of molecules from a low to a high concentration. (D) Saturations may be achieved in both facilitated diffusion as well as active transport .

A. (A) & (B)

B. (B) & (D)

C. (A) & (C)

D. (B) & (C)

**Answer: B**



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### 3. Facilitated diffusion

- A. Is uphill transport
- B. Requires ATP energy
- C. Highly selective
- D. Does not require protein

**Answer: C**



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4. Short distance transport of substances occur by/ through

A. Diffusion

B. Cytoplasmic streaming

C. Vascular system

D. Both (1) & (2)

**Answer: D**



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## 5. Diffusion isiof

A. One substance depends on another substance

B. The only means of gaseous movement in plants

C. An energy dependent process

D. Solid is more common than gases or liquids

**Answer: B**





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6. Both facilitated and active transport

- A. Require carrier proteins
- B. Occur against concentration gradient
- C. Show movement of transport proteins
- D. Are insensitive to the inhibitors

**Answer: A**



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7. Water potential is denoted by (i) letter Psi or symbol  $\Psi$ , and is measured in pressure units such as (ii)

A. (i) Latin (ii) Bars

B. (i) Greek (ii) Pascals(Pa)

C. (i) Latin (ii) Pascals

D. (i) Greek (ii) Joules

**Answer: B**



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8. Solute potential of a solution is

A. Always negative

B. Represented by  $\psi_s$

C. Always positive

D. Both (1) and (2)

**Answer: D**



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9. Choose the option with correct expression.

A.  $\psi_w = \psi_s - \psi_p$

B.  $\psi_s = \psi_w + \psi_p$

C.  $\psi_w = \psi_s + \psi_p$

D.  $\psi_w = \psi_p - \psi_s$

**Answer: C**



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10. Observe the given diagram carefully and choose the correct option.

A. Water moves from B to A

B. Column A has higher free energy of water

C. Column B has higher free energy of water

D. Both (1) and (3)

**Answer: B**



**11.** Read the following statements and choose the correct option. (A) Osmotic pressure is equivalent to the osmotic potential but the sign is opposite. (B) During plasmolysis water is first lost from the vacuole then from the cytoplasm. (C) The process of plasmolysis is usually reversible

A. Only A is correct

B. Only B is incorrect

C. Both B and C are correct

D. Both A and B are correct

**Answer: B**



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**12.** The only way for water and solute molecules to enter the vascular cylinder is

A. Apoplastic pathway

B. Symplastic pathway

C. Osmosis

D. Facilitated diffusion

**Answer: B**



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**13.** Which of the following obstructs apolastic pathway of water in roots?

A. Casparian strips of the pericycle

B. Casparian strips of the endodermis

C. Casparian strips of the hypodermis

D. Lignin strips of the endodermis

**Answer: B**



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**14.** Read the following : A. Intracellular movement of water B. Movement of water through plasmodesmata C. Water moves from cytoplasm to cytoplasm of the neighbouring cells. D. Water movement is exclusively via cell

wall E. Faster pathway F. Slower pathway G.

Bulk transport of water Sympiotic pathway

does not involve

A. A, B, D & E

B. A, C, D, E & G

C. D, E & G only

D. A, D, E, F & G

**Answer: C**



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15. Cytoplasmic streaming is related to

- A. Symplastic pathway
- B. Apoplastic pathway
- C. Long distance transport
- D. Both (1) & (3)

**Answer: A**



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**16.** All are true for mycorrhizal association except.

A. Pious seeds cannot germinate properly without such association

B. It's a symbiotic association of fungus and roots of higher plants

C. Surface area for water absorption increases

D. Associated fungus get minerals from plants

**Answer: D**



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**17.** Approximate time required by a diffusing particle across a plant cell about  $50 \mu m$  is

A. 2.5 minute

B. 2.5 seconds

C. 25 seconds

D. 0.25 seconds

**Answer: B**



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**18.** Conditions essential for imbibition is/are

A. Water potential gradient between the liquid imbibed and the absorbent

B. Affinity between the adsorbent and the imbibed liquid

C. Hydrophobic adsorbent

D. Both (1) and (2)

**Answer: D**



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**19.** During osmosis water moves from its region of (i) to its region of (ii) until equilibrium is achieved

A. (i) Higher chemical potential (ii) Lower chemical potential

B. (i) Lower chemical potential (ii) Higher chemical potential

C. (i) Lower free energy (ii) Higher free energy

D. (i) Lower solute potential (ii) Higher solute potential

**Answer: A**



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20. The water potential of a solution if a pressure greater than atmospheric pressure is applied on it

A. Increases

B. Decreases

C. Remains constant

D. First decreases then increases

**Answer: A**



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21. Choose the correct option w.r.t. root pressure.

A. It is a positive pressure

B. Develops in the xylary element of tall trees only

C. It is observable during day time only

D. Both (2) & (3)

**Answer: A**





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22. Rate of upward movement of water through the xylem in the plants may reach upto

A. 15 m/hr

B. 1.5 m/hr

C. 15 m/min

D. 1.5 m/min

**Answer: A**



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23. Main driving force for ascent of sap through xylem is

- A. Root pressure
- B. Transpiration pull
- C. Cohesion - adhesion
- D. Capillarity

**Answer: B**



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24. Loss of water in its liquid phase from the margin of leaves is called

- A. Guttation
- B. Cuticular transpiration
- C. Lenticular transpiration
- D. Root pressure

**Answer: A**



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**25.** Read the following statements and select the correct option.

Statement A : Only steroid hormones are able to cross the cell membrane and act via intracellular receptors.

Statement B : Steroid hormones stimulate regulatory genes present on the chromosomes and thus regulate gene expression

A. Only statement A is incorrect

B. Only statement B is incorrect

C. Both statements are incorrect

D. Both statements are correct

**Answer: A**



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**26.** Select the correctly matched pair.

A. Melatgnin - Hastens puberty

B. Progesterone — Stimulates follicle maturation

C. FSH — Surge causes ovulation

D. LH — Stimulates testosterone synthesis in males

**Answer: D**



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27. Which of the following hormones causes release of bile from gall bladder?

A. CCK

B. ANF

C. GIP

D. Gastrin

**Answer: A**



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**28.** A list of some hormones is given in the box.

[ Insulin. Cortisol. Testosterone, Thyroxine.

Epinephrine. TSH. FSH. Progesterone, GnRH ]

How many among the hormones mentioned above will act via membrane bound receptors and intracellular receptors respectively?

A. 5, 4

B. 4, 5

C. 6, 3

D. 3, 6



**Answer: A**



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**29.** Read the following statements.

(I) Ketonuria and glycosuria are characteristic symptoms of diabetes insipidus.

(II) Gynaecomastia is caused due to alteration in estrogen to androgen ratio.

(III) Except renin all other component of RAAS are produced by kidneys.

(IV) Generation of secondary messengers leads

to the amplification of response generated for a hormone molecule.

Choose the option which includes correct statements only.

A. I & II

B. II & III

C. II only

D. II & IV

**Answer: D**



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**30.** Testis performs dual functions by acting as

- A. Endocrine gland
- B. Primary sex organ
- C. Stimulate immune system
- D. Both (1) & (2)

**Answer: D**



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**31.** Leydig cells secrete A under the influence of B which is secreted by C . Choose the option which gives the correct answer for blanks in above statement

A. A- Estrogen B- FSH C - Posterior pituitary

B. A - Androgen B - Testosterone C -  
Interstitial cells

C. A - Testosterone B - LH C - Anterior  
pituitary

D. A - Androgen B - LH C - Seminiferous  
tubules

**Answer: C**



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**32.** Select the hormone which acts on mammary glands and stimulates the formation of alveoli?

A. Estrogen

B. Prolactin

C. Progesterone

D. Oxytocin

**Answer: C**



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**33.** A peptide hormone secreted from the atrial walls of heart in response to increase in blood pressure is called

A. Relaxin

B. Renin

C. Atrial natriuretic factor

D. Vasopressin

**Answer: C**



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**34.** Mark the odd one out wr.t. solubility of hormones

A. Vasopressin

B. Oxytocin

C. Insulin

D. Thyroid hormone

**Answer: D**



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**35.** Which of the following pair of hormones represents amino acid derivatives?



A. Thyroid and parathyroid hormone

B. Insulin and glucogen

C. Epinephrine and norepinephrine

D. Thyrocalcitonin and oxytocin

**Answer: C**



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**36.** The secretion and ejection of milk by mammary gland require the synergistic effect of which of the following hormones?

A. Estrogen, progesterone

B. Prolactin, oxytocin

C. Adrenaline, noradrenaline

D. Both (1) & (2)

**Answer: B**



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**37.** Read the following statements and choose the correct option w r t catecholamines (a)  
Water soluble hormones which interact with

the membrane bound receptors (b) Work through second messenger (c) Binds to external domain of the extracellular receptor present on cell surface (d) They form hormone-receptor complex on the cell surface

A. a and b only

B. b and c only

C. a, c and d only

D. a, b, c and d

**Answer: D**



**38.** Which of the following hormones does not exhibit the mechanism of action by its interaction with membrane bound receptors?

A. Catecholamines

B. Peptide

C. Polypeptide

D. Iodothyronines

**Answer: D**



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39. Which of the following hormones is not secreted by the kidneys?

A. Erythropoietin

B. Renin

C. Rennin

D. Calcdroi

**Answer: D**



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