

THIRUVANANTHAPURAM EDUCATIONAL DISTRICT

WS2BY10 2

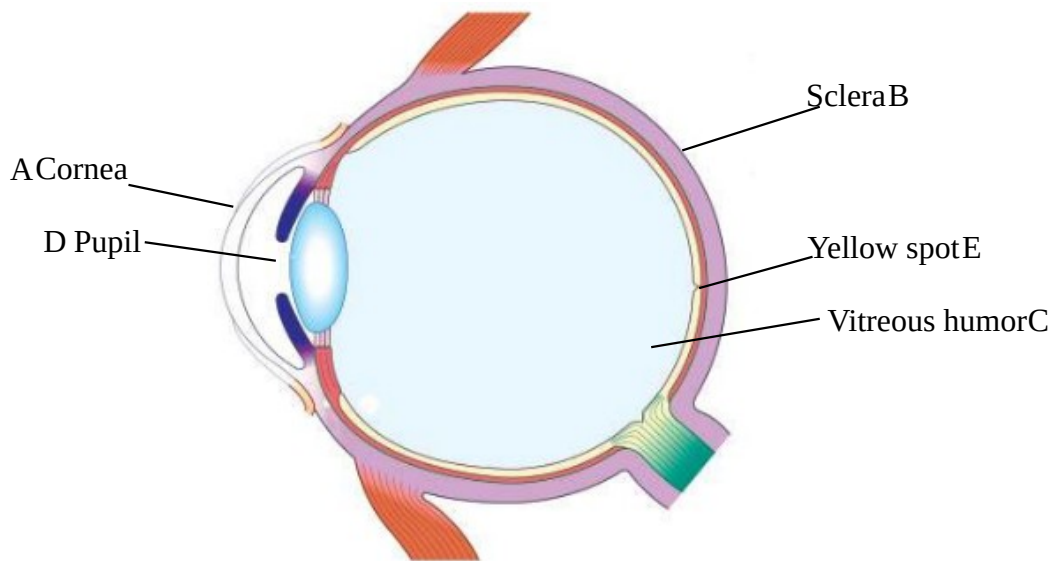
STANDARD X

BIOLOGY

UNIT II (Answerkey)



1.



Parts	peculiarities	function
B. Sclera	The white outer layer made up of connective tissues.	Give firmness to the eyes.
C. Vitreous humor	The jelly like substance seen in the vitreous chamber.	Helps in maintaining the shape of the eyes.
D. Pupil	The aperture seen at the centre of the iris.	Regulate the amount of light falling on the eyes.
E. Yellow spot	The part of the retina where plenty of photoreceptors are present.	It is the point of maximum visual clarity.

2. a. Eye socket -depressions in the skull.
d. External eye muscles – Fix the eye balls in the orbit.
b. Tears -Clean and lubricate the anterior part of the eye ball.
c. Conjunctiva -Secretes mucus which protect the anterior portion of the eye-ball from being dry.
e. Eyebrow -Prevent dust, water etc. from entering into the eye.

3. a) Make an attractive poster of your own showing the importance of eye donation.
- b) i) Include food items with rich source of vitamin A like leafy vegetables, carrot, papaya etc.
- ii) Ensure proper light in the room while you are reading, using smartphone, watching TV etc.
- iii) While using smartphone /laptop etc., keep a distance of 30cm/60cm away from the screen.
- iv) Maintain personal hygiene; do not touch your eyes with unclean hands.
- iv) Consult a doctor, if you constantly feel discomfort in your eyes.

4.a)

Indicators	While viewing nearby objects	While viewing distant objects.
Ciliary muscles	contract	(A)relax
Ligaments	(B)relax	stretch
Curvature of lens	(C)increases	(D)decreases
Focal length	(E)decreases	(F)increases

5.

1.Cornea → 2.Pupil → 3.Lens → 4.Retina → 5.Photoreceptor → 6.Optic nerve → 7.Cerebrum.

6.

Under dim light	Indicators	Under bright light
contract	Radial muscles	relax
relax	Circular muscles	contract
increases	Size of the pupil	decreases

7. a)

- A- Rod cell
B – Cone cell

1. rhodopsin , 2.rod shape , 3.see objects in dim light.
4. photopsin, 5.cone shape , 6. provide us with colour vision.

b)

- A) Retinal B)Opsin
C)Photopsin/Iodopsin.

i) In the presence of light, pigments present in photoreceptors, dissociate. This chemical change leads to the formation of impulses.

8. i) Conjunctivitis; The causative organisms may be bacteria, virus etc.

ii) Colour Blindness; Persons cannot distinguish green and red colours due to the defect of cone cells.

9.

Eye defect A	Reason B	Remedy C
1. Xerophthalmia	Prolonged deficiency of vitamin A	Consuming food with vitamin A
2. Glaucoma	Reabsorption of aqueous humor does not occur which causes an increase in the pressure inside the eyes.	Laser treatment.
3. Cataract	Lens of the eye becomes opaque.	Replace eye lens with an artificial lens.
4. Night blindness	Deficiency of vitamin A	Consume food containing vitamin A

10. a-Pinna.

b-Tympanum.

c-Eustachian tube.

d- Cochlea.

E-Auditory nerve.

A	B
Tympanum	It vibrates in resonance with sound waves.
Eustachian tube	Helps in maintaining balance of pressure on either side of the tympanum.
Auditory nerve	Carry impulses to the cerebrum.
Cochlea	Helps in hearing.
Pinna	Carries sound waves to the auditory canal.

11. a) A-Semicircular canals.

B-Vestibular nerve.

C-Vestibule

- b) A-Movement of the head bring about the movement of the endolymph present inside the vestibule and semicircular canals.
B-These impulses are transmitted by the vestibular nerve to the cerebellum.
C-The equilibrium of the body is maintained.

12.

- A-Cold receptor.
B-Touch receptor.
C-Pressure receptor.
D-Temperature receptor.

13. a) Taste bud.

- b) Seen on the papillae.
c) Stimulated by tastes like sweet, salt, sour, bitter, umami etc.

14. * Aromatic particles diffuse in the air and enter the nostrils.

- * These aromatic particles dissolve in the mucus inside the nose.
* Stimulate the olfactory receptors.
* Impulses are formed.
* Impulses reach cerebrum through the olfactory nerve.
* The sense of smell.

15. a) A-Eye spot.
B-Ommatidia.
C-Jacobson's organ.
D-Lateral line.
-