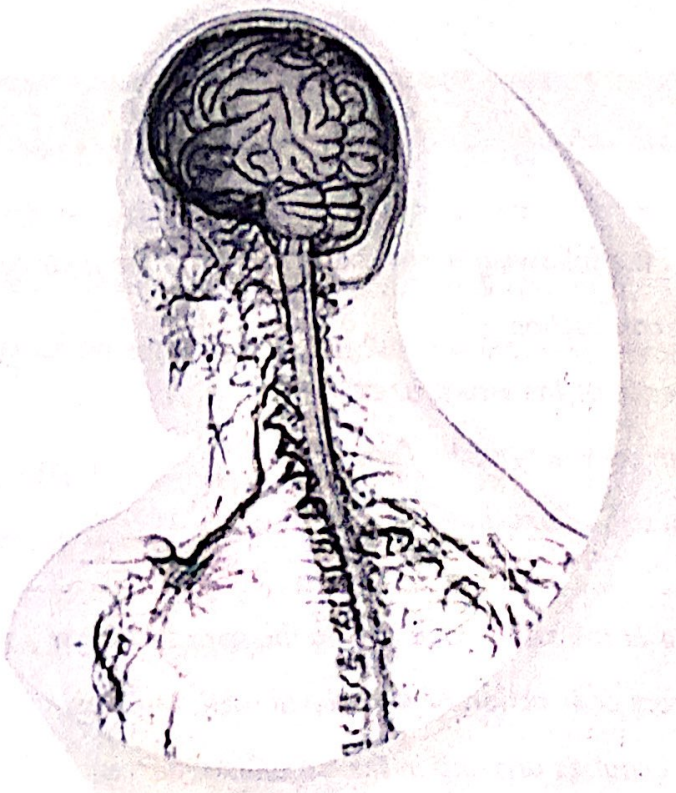
Level 2 Sem 4

MCQ Physio

CNS



L 12

DR.M M

Written Q

1. Def refractive index , refractive power ?
2. Enumerate causes of corneal or lense transparency ?
3. Enumerate factors that maintain corneal transparency ?
4. Enumerate function of iris , choroid , lense ?
5. Def range and amplitude of accommodation ?
6. Def near reflex and enumerate its response ?
7. Def aphakia , prebypoia , cataract ?
8. Def with causes : myopia , hypermetropia and astigmatism ?
9. Def glaucoma ?
10. Enumerate function of aquous and vitrous humer ?

Formative MCQ

1. Which one of the following is not a component of the near response? a) Pupillary constriction b) Convergence of the visual axes c) Increase in convexity of the lens d) Ciliary muscle relaxation	D
2. Convergence of the visual axes during the near response: a) Results from contraction of the lateral recti. Muscles. b) Is due to impulses arriving in the trigeminal nerve. c) Prevents both spherical and chromatic aberration d) Allows the 2 image of the near object to fall at the fovea centralis of both retinae.	D

3. Refractive media of eye include: a) Cornea and sclera b) Lense and iris c) Retina and vitrous body d) Cornea and lense e) Ciliary body and process	**D**
4. The main Refractive Medium of the eye is: a) Sclera b) Lens c) Vitreous body d) Aqueous humor e) Cornea.	**E**
5. About the Intraocular pressure, one of the following is correct: a) is normally about 100 mmHg. b) Depends on the rate of aqueous humour production & drainage. c) Depends on the rate of passage of aqueous humour into the vitreous humour. d) When decreased it affects accommodation to far vision. e) Is measured by mercury manometer.	**B**
6. Refractive index of the aqueous humor is: a) 1.0 b) 1.33 c) 1.34 d) 1.38 e) 1.40	**B**

7. Aqueous humor: a) *is the pigment responsible for the black color of the choroid.* b) *exits the eye through the canal of Schlemm.* c) *is produced by the iris.* d) *can cause cataracts if overproduced.* e) *is composed of proteins called crystallines.*	**B**
8. Refractive power of a lens with focal length 25 cm is: a) *4 diopters* b) *10 diopters* c) *25 diopters* d) *50 diopters* e) *100 diopters.*	**A**
9. In the refracting system of the eye: a) *The cornea causes less refraction than the lens.* b) *More refraction occurs at the inner surface of the cornea than at the outer surface.* c) *The lens, by becoming more convex, can more than double the total refractive power of the eye.* d) *The back surface of the lens contributes more to accommodation than the front.* e) *Ageing reduces the maximum refractive power of the eye.*	**E**
10. An increase in refractive power is produced by contraction of the: a) *Iris* b) *Ciliary body* c) *Suspensory ligaments* d) *Extraocular muscles* e) *Pupil*	**B**

11. During accommodation for near vision: a) More light enters the eye. b) The curvature of the cornea increases. c) Chromatic and spherical aberration is increased. d) The depth of focus decrease. e) The visual axes of the two eyes converge.	**E**
12. The causes of corneal transparency include: a) Irregular arrangement of layer b) Presence of myelinated nerve fibers c) Presence of blood vessels d) Osmotic pump e) Corneal hydration.	**D**
13. About the cornea of the eye: a) Corneal dehydration is due to the presence of blood vessels. b) Astigmatism in the cornea is corrected by convex spherical lens c) Riboflavin is needed to maintain corneal transparency. d) Damage of the metabolic pump in the endothelial cells of the cornea causes keratoconus. e) It takes its glucose requirement from precorneal tear film.	**C**
14. The cornea is rich in: a) Pain receptors b) Touch receptors c) Proprioceptors d) Photoreceptors e) Chemoreceptors.	**B**

15. Vit A in cornea is essential for: a) Formation of new blood vessels. b) Healthy epithelium. c) Absorption of ultraviolet rays. d) Osmotic pump. e) Metabolic pump.	B
16. The aqueous humour: a) Is one of the refractive media of the eye. b) Is formed by passive filtration. c) Is more easily drained when the pupil is dilated. d) Is formed initially in the anterior chamber of the eye. e) Its excess secretion results in cataract.	A
17. The aqueous humour normally is: a) 1µl/min b) 5 µl/min c) 10 µl/min d) 20 µl/min e) 25 µl/min	A
18. The aqueous humour contains low concentration of: a) Proteins b) Na ions c) Vit C d) Bicarbonate e) Lactic acid.	A

19. The aqueous humour acts as: a) Concave lens with – 4 diopters b) Convex lens with + 4 diopters c) Concave lens with – 20 diopters d) Convex lens with +20 diopters e) Concave lens with – 39 diopters.	A
20. The aqueous humour formation occur by active secretion of: a) Na ions b) Cl ions c) HPO4 ions d) HCO3 e) H2O.	A
21. Glaucoma is accompanied by: a) Loss of lens transparency. b) Increase in visual acuity. c) Decrease in intraocular pressure. d) Loss of focusing mechanism. e) Spherical aberrations.	D
22. Functions of vitreous humor is: a) Buffering of acids produced by lens. b) Nourishing the avascular lens. c) Preventing spherical aberrations d) Supporting the crystalline lens e) Providing the lens with O2.	D

23. About the iris of the eye: a) The diameter of the pupil is controlled by sympathetic only b) The iris helps the spherical and chromatic aberrations. c) Its function is to regulate the amount of light entering the eye d) Chromatic aberrations mean that the light rays converge to different foci e) Spherical aberration means that light is analyzed to its original color.	C
24. Constriction of the pupils (miosis): a) It is mediated via sympathetic nerves. b) It increases the refractive power of the eye. c) It increases the depth of focus. d) It increases spherical aberrations. e) It increases chromatic aberrations.	C
25. The ciliary body: a) contains smooth muscles that attach to the lens by suspensory ligaments. b) produces the vitreous humor. c) is part of the iris of the eye. d) is part of the sclera. e) With the cornea, it forms the outer layer of the eye.	A
26. The lens normally focuses light onto the: a) optic disc. b) iris. c) macula lutea. d) cornea. e) ciliary body.	C

27. When emmetropic persons become presbyopic, their: a) Visual acuity increases b) Near point increases c) Far point decreases d) Total refractive power increases e) Ability to see distant objects decreases	B
28. Dilation of the pupil increases the: a) Amount of light entering the eye. b) Refractive power of the eye. c) Spherical aberration. d) Depth of focus. e) Field of vision.	A
29. Visual acuity is: a) A measure of the sensitivity of the retina to light. b) Greater in a person with 6/12 (0.5) vision than in one with 6/9 (0.75). c) Greater using central than using peripheral vision. d) Greater using one eye than using both eyes. e) Greater in normal than in colour-blind people.	C
30. In long-sightedness (hypermetropia): a) Objects at infinity cannot be focused sharply on the retina. b) Objects at the usual near-point are focused in front of the retina. c) Ciliary muscle contracts more strongly to bring objects in mid-visual range into clear focus. d) The range of unblurred vision (near-point to far-point) is greater than normal. e) The near-point can be brought closer to the eye by the use of a biconcave lens	C

1. Which of the following is INCORRECT for the cornea: a) *It is transparent.* b) *It is a vascular.* c) *Its refractive power is 20 D.* d) *It has an active sodium pump.* e) *It contains unmyelinated nerve fibers.*	C
2. Refractive power of cornea normally equals: a) 44 D. b) 55 D. c) 33 D. d) 20 D. e) 22 D.	A
3. Which of the following is correct: a) *aqueous humour is drained at ciliary processes.* b) *aqueous humour is secreted at iridocorneal angle.* c) *aqueous humour supplies cornea with nutrients.* d) *taste buds most sensitive to bitter sensation are located on the sides of the tongue.* e) *taste buds most sensitive to sour sensation are located on the tip of the tongue.*	C
4. Aqueous humour is formed by: a) *ciliary process.* b) *iris.* c) *choroid.* d) *ciliary muscles.* e) *retina.*	A

5. The function of aqueous humour is to: a) increase sensitivity of rods. b) supply retina with O2. c) supply cornea with O2. d) decrease amount of light entering the eye. e) helps dark adaptation.	C
6. Concerning the formation of aqueous humour and the intraocular pressure (IOP): a) the initial process of formation is active transport of Na+. b) elevated systemic blood pressure usually increases the rate of formation. c) the normal range of IOP is 25 – 35 mmHg. d) both a & b are correct. e) both b & c are correct.	A
7. The aqueous humour: a) is a transparent fluid which fills the posterior segment of the eye. b) is formed as a result of active secretion of Na+ by the ciliary processes. c) involves active secretion of both Cl– and HCO3- in its formation. d) is more easily drained when the pupil is dilated. e) all of the above are correct.	B
8. Concerning the intraocular pressure: a) the normal value of intraocular pressure is 5 – 10 mmHg. b) the normal value of intraocular pressure is 15 – 20 mmHg. c) in glaucoma the intraocular pressure decreases. d) vitreous humor keeps the intraocular pressure. e) none of the above is correct.	B

9. Functions of iris include: a) controls amount of light entering eye. b) forms spherical and chromatic aberrations. c) decreases depth of focus. d) keeps spherical shape of eye ball. e) keeps normal curvature of cornea.	A
10. The near point of vision: a) is 50 cm at 20 years of age. b) is 20 cm at 50 years of age. c) is 30 cm in children. d) is decreased with age. e) depends on elasticity of the lens.	E
11. The power of the eye lens when accommodation is minimal is about: a) 10 diopters. b) 22 diopters. c) 32 diopters. d) 44 diopters. e) 60 diopters.	B
12. If the refractive power of the lens is +10 diopters, its focal length equals: a) 0.2 meter. b) 0.5 meter. c) 0.1 meter. d) 10 meters. e) 1 meter.	C

13. Accommodation in the eye: a) occurs during far vision. b) is about 10 diopters in adult. c) increases with age. d) is due to relaxation of ciliary muscle. e) means decrease in power of the lens.	B
14. Which of the following is component of near response: a) dilatation of the pupil. b) decrease power of the lens of the eye. c) increase retinal sensitivity. d) convergence of both eyes. e) increase rhodopsin formation.	D
15. Myopia is: a) caused by too short eye ball. b) corrected by biconcave spherical lenses. c) caused by decreased power of lens. d) caused by irregular corneal curvature. e) corrected by biconvex spherical lenses.	B
16. Hypermetropia is: a) caused by short eye ball. b) corrected by cylindrical lenses. c) caused by long eye ball. d) corrected by concave lenses. e) caused by loss of lens elasticity.	A

17. Astigmatism is caused by: a) long eyeball. b) short eye ball. c) loss of lens elasticity. d) high refractive power of eye. e) irregular curvature of the cornea.	E
18. A patient whose eye lens has lost its elasticity is suffering from: a) glaucoma. b) cataract. c) presbyopia. d) astigmatism. e) myopia.	C
19. Presbyopia: a) occurs in old age. b) is caused by large eyeball. c) is caused by small eyeball. d) in presbyopia reading becomes easy. e) in presbyopia the power of accommodation increases.	A
20. About the refractive media of the eye, all are true except; a) The refractive media of the eye include; the cornea, aqueous humour, lens and the sclera. b) The main refracting surfaces of the eye are the cornea and the lens. c) The refractive power of the eye is about 59 diopters. d) The refractive power of the lens is +20 diopters, while that of the cornea is +39 diopters.	A

21. About the cornea of the eye, all are true except; a) Riboflavin is needed to maintain corneal transparency. b) Corneal dehydration is due to absence of blood vessels. c) The fine histological arrangement of the corneal cells is the cause of its transparency. d) Damage of the metabolic pump in the endothelial cells of the cornea causes corneal cloudness.	B
22. About the aqueous humor, all the followings are true except; a) The filtration angle is the junction between the iris and the cornea. b) Its rate of secretion is greater than the rate of drainage to overcome its evaporization. c) The canal of Schlemm is a thin permeable canal that encircles the anterior chamber at the corneoscleral junction. d) Normal intraocular pressure depends on a balanced rate of production-drainage of aqueous humor.	B
23. Constriction of both pupils in accommodation reflex is important because: a) it increases the diopteric power of the eye. b) It help stereoscopic vision. c) It prevents chromatic and spherical aberration. d) It increases the field of vision.	C
24. When parallel rays come to a focus behind the retina the condition is called: a) Myopia. b) Presbyopia. c) Hypermetropia. d) Emmetropia.	C

25. In Myopia: a) The lens power is weaker than normal. b) Near vision is more affected than for vision. c) A circular object may appear oval. d) The eyeball tends to be longer than normal.	D
26. About the lens of the eye, all the following are true except; a) It is a vascular transparent biconvex lens. b) It provides about 70% of total diopteric power of eye. c) It enables the eye to see far and near objects clearly. d) Glutathione is essential for its metabolism.	B
27. Presbyopia, all the following are true except; a) It is due to sclerosis of the lens. b) It is due to loss of elasticity of the suspensory ligaments. c) It is due to loss of contractile power of ciliary muscle. d) It affects far and near vision.	D
28. The power of accommodation is: a) Determined by the elasticity of the cornea. b) The difference between the lens power during far vision and its power when maximally accommodated. c) Normally about 2 diopters at age of 20 years d) Increase with the advance of age.	B
29. The near point of vision: a) Is the shortest distance at which the eye can see clearly. b) At which the accommodation is minimal. c) It increases in length by age. d) It is inversely proportionate to the power of accommodation.	B

30. The aqueous humour is: a) One of the refractive media of the eye. b) Formed by passive filtration. c) More easily drained when the pupil is dilated. d) Formed initially in the anterior chamber of the eye.	A
31. About the aqueous humor, all the followings are true except : a) Decreased aqueous secretion affects metabolism of cornea and lens. b) Disturbance in aqueous humor system affects diopter power of eye. c) A normal IOP is essential for focusing of the eye d) A normal IOP is about 80 mmHg	D
32. About the glaucoma, all the followings are false except: a) Glaucoma is a pathological condition due to excessive rise of vitreous pressure. b) In glaucoma patient suffers from severe pain and failure of accommodation to far vision c) Closed angle glaucoma is treated by carbonic anhydrase inhibitors, while. open angle glaucoma is treated by parasympathomimetic drugs, d) Increased IOP of eye above 20 mmHg is diagnosed as glaucoma.	D
33. Increased thickness of lens during accommodation is due to the following except: a) Contraction of the ciliary muscles b) Increased tension in suspensory ligaments c) The elasticity of the capsule of the lens. d) Stimulation of the 3rd cranial nerves.	B
34. The crystalline lens of the eye : a) Has a uniform refractive index all through. b) In richly supplied by blood vessels . c) In more elastic in old age. d) Bulges more at its anterior surface during accommodation	D

35. In hypermetropia , All are true except : a) The far point in nearer than normal . b) The image is formed behind the retina. c) Convex lenses correct the condition. d) Presbyopia worsens the condition.	A
36. The near point of vision , All are true except: a) Is the shortest distance at which the eye can see clearly b) At which the accommodation is minimal c) it increases in length by age d) It is Inversely proportional to the power of accomimodation.	B
37. If focal distance (length) of a lens is 0.75 meter, its power is : a) 1.33 diopters. b) 10,3 diopters. c) 0.25 diopter. d) 0.75 diopter. e) 1.0 diopter	A
38. Visual accommodation involves : a) Increased tension on the suspensory ligament of the lens . b) A decrease in the curvature of the lens . c) Contraction of the ciliary muscle d) Relaxation of the constrictor pupillae muscle . e) Increased Intra-ocular pressure	C
39. The normal/corneal transparency is due to all the following factors except a) Its avascularity b) The regular arrangement of its connective tissue lamellae. c) Absence of myelin sheath In the nerves. d) Its normal relative hydration	D

40. A rise of intra-ocular pressure leads to all following except : a) Severe pain in the eye. b) Cataract c) Reduction of the focusing mechanism of the eye. d) Disturbances in near vision more than in far vision. e) Atrophy of the optic nerve in long-standing cases.	**B**
41. In the refracting system of the eye: a) The lens can double refractive power during accommodation. b) The aqueous humour is the most effective refractive medium. c) The cornea causes more refraction than the lens. d) More refraction occurs at the vitreous humour. e) The posterior surface of the lens contributes more to accommodation than its anterior surface.	**C**
42. The myopic person : a) May see clearly by adjusting the lone of his ciliary muscles. b) Cannot see clearly unless he wears suitable negative lenses. c) Becomes worse with the occurrence of presbyopia d) May be improved by use of convex spherical lenses	**B**
43. In astigmatism : a) the refractive error is due to an abnormality in the retina b) Complete correction may be obtained by spherical lenses c) Correction can be obtained by 2 cylindrical lenses crossed at right angles. d) the focal point formed by one meridian is different from that formed by the perpendicular meridian	**D**

44. In refractive media of eye , the highest refractive index is that of: a) Cornea. b) Aqueous humour. c) Crystalline lens d) Vitreous humour.	C
45. When the pupil is maximally constricted by a miotic drug : a) The retinal image may disappear b) There is a tendency to myopia . c) More light rays enter the eye d) Spherical aberration increases . e) The depth of focus is maximal.	E
46. Accommodation of the lens to focus a near object is due to : a) Increased tension of the suspensory ligament. b) Regain of its resting elasticity so that is becomes more spherical . c) Pulling insertion of the suspensory ligament at the ciliary body backward and downward. d) Pulling on its capsule as a result of ciliary muscle contraction	B
47. The major refraction of light rays in the eyes occurs at the : a) Air-cornea interface. b) Cornea-aqueous Interface c) Aqueous-lens Interface. d) Lens-vitreous interface	A
48. In myopia : a) The eyeball tends to be longer than the average normal . b) The lens power is weaker than normal in most cases . c) The use of biconvex lenses corrects the error . d) Near vision is more seriously affected than far vision . e) A circular object may appear oval .	A

49. IF A Convex lens has a focal length of 1 cm (0.01 in), what is the refractive power of that lens in diopters? a) +0.04 b) +0.10 c) +1 d) +10 e) +100	E
50. In hypermetropia: a) The objects at Infinity cannot be clearly seen. b) ciliary muscle must contract more strongly than normal even during far vision c) The range of clear vision is greater than normal. d) Correction is obtained by use of converging (convex) lenses .	D
51. When parallel light rays pass through a concave lens, which of the following will occur? a) Rays converge toward each other b) Rays diverge away from each other c) They maintain parallel relationship d) They reflect back in the direction from where they came e) Rays refract to one focal point	B
52. What is the name of the condition whereby the lens of the eye becomes almost totally unaccommodating in persons over 70 years of age? a) Amblyopia b) Emmetropia c) Hyperopia d) Myopia e) Presbyopia	E

53. Accommodation for far vision (focusing on an object at a distance) requires which of the following processes? a) Constriction of the pupil of the eye b) Dilation of the pupil of the eyes c) An increase in die formation of rhodopsin d) Causing the lens of the eye to have more curvature (making it falter) e) Causing the lens of the eye to have less curvature (making it thinner)	E
54. Which of the following statements is correct regarding astigmatism? a) Light rays do not come to a common local point b) Light rays being emitted from distant objects are focused Behind retina c) Light rays being emitted from distant objects are focused in front of retina d) Light rays being emitted from distant objects are in sharp focus on retina e) There is a cloudy or opaque area or area in the lens	A
55. The condition of myopia is usually corrected by which of the following types of lens ? a) Compound lens b) Convex lens c) Spherical lens d) Concave lens e) Cylindrical lens	D
56. The condition of hyperopia is usually caused by which of the following anomalies of the eye? a) Decreased production of melanin b) Uneven curvature of the cornea c) Eyeball that is shorter than normal d) Eyeball that is longer than normal e) Lens system that is too powerful and focuses object in front of retina	C

57. Which of the following provides about two thirds of the 59 diopters of refractive power of the eye? a) Anterior surface of the cornea b) Anterior surface of the lens c) Iris d) Posterior surface of the cornea e) Posterior surface of the lens	A
58. The intraocular fluid of the eye flows from the canal of Schlemm into which of the following locations ? a) Anterior chamber b) Aqueous veins c) Lens d) Posterior chamber e) Trabeculae	B
59. A 45-year-old female who had never needed to wear glasses experienced difficulty reading a menu in a dimly-lit restaurant. She then recalled that as of late she needed to have the newspaper closer to her eyes in order to read it. A friend recommended she purchase reading glasses. Visual accommodation involves: a) Increased tension on the lens ligaments. b) A decrease in the curvature of the lens. c) Relaxation of the sphincter muscle of the iris. d) Contraction of the ciliary muscle. e) Increased intraocular pressure.	D

60. Which of the following is not correctly paired? a) Rhodopsin: retinal and opsin b) Obstruction of the canal of Schlemm: elevated intraocular pressure c) Myopia: convex lenses d) Astigmatism: nonuniform curvature of the cornea e) Inner segments of rods and cones: synthesis of the photosensitive compounds	C
61. Which of the following structures secretes intraocular fluid of the eye? a) Ciliary processes b) Cornea c) Iris d) Lens	A