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NEET NEURAL CONTROL AND COORDINATION — PYQS

Max. Marks: 236 **Questions:** 59

Section A (MCQ) — 59 questions

Q.1 The specific receptors for neurotransmitters in a synapse are present on _____. [NEET (UG) 2026]

(1) Pre-synaptic membrane
(2) Post-synaptic membrane
(3) Myelin sheath
(4) Schwann cell

Solution

Q.2 Which of the following is not a part of human central neural system? [RE-NEET (UG) 2026]

(1) Pericardium (2) Arachnoid
(3) Dura mater (4) Pia mater

Scan or tap for the full solution

Q.3 Match **List I** with **List II**:

List - I		List - II	
A.	Pons	I.	Provides additional space for Neurons, regulates posture and balance.
B.	Hypothalamus	II.	Controls respiration and gastric secretions.
C.	Medulla	III.	Connects different regions of the brain.
D.	Cerebellum	IV.	Neuro secretory cells

Choose the correct answer from the options given below : [NEET (UG) 2024]

(1) A-II, B-III, C-I, D-IV
(2) A-III, B-IV, C-II, D-I
(3) A-I, B-III, C-II, D-IV
(4) A-II, B-I, C-III, D-IV

Solution

Q.4 Given below are two statements:
Statement-I: The cerebral hemispheres are connected by nerve tract known as corpus callosum.
Statement-II: The brain stem consists of the medulla oblongata, pons and cerebrum.

In the light of the above statements, choose the most appropriate answer from the options given below: [NEET (UG) 2024]

(1) Both Statement-I and Statement-II are correct.
(2) Both Statement-I and Statement-II are incorrect.
(3) Statement-I is correct but Statement-II is incorrect.
(4) Statement-I is incorrect but Statement-II is correct.

Scan or tap for the full solution

Q.5 Match **List-I** with **List-II**

List - I		List - II	
A.	Schwann cells	I.	Neurotransmitter
B.	Synaptic knob	II.	Cerebral cortex
C.	Bipolar neurons	III.	Myelin sheath
D.	Multipolar neurons	IV.	Retina

Choose the correct answer from the options given below: [RE-NEET (UG) 2024]

(1) A-III, B-I, C-IV, D-II
(2) A-I, B-IV, C-II, D-III
(3) A-IV, B-III, C-II, D-I
(4) A-II, B-III, C-I, D-IV

Solution

Q.6 The parts of human brain that help in regulation of sexual behaviour, expression of excitement, pleasure, rage, fear etc. are: [NEET (UG) 2023]

(1) Corpora quadrigemina and hippocampus
(2) Brain stem and epithalamus
(3) Corpus callosum and thalamus
(4) Limbic system and hypothalamus

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Q.7 Match **List I** with **List II** with respect to human eye. [NEET (UG) 2023]

List I		List II	
A.	Fovea	I.	Visible coloured portion of eye that regulates diameter of pupil.
B.	Iris	II.	External layer of eye formed of dense connective tissue.
C.	Blind spot	III.	Point of greatest visual acuity or resolution.

List I		List II	
D.	Sclera	IV.	Point where optic nerve leaves the eyeball and photoreceptor cells are absent.

(1) A-IV, B-III, C-II, D-I
(2) A-I, B-IV, C-III, D-II
(3) A-II, B-I, C-III, D-IV
(4) A-III, B-I, C-IV, D-II

Solution

Q.8 Select the incorrect statement regarding synapses : [NEET (UG) 2022]

(1) The membranes of presynaptic and postsynaptic neurons are in close proximity in an electrical synapse.
(2) Electrical current can flow directly from one neuron into the other across the electrical synapse.
(3) Chemical synapses use neurotransmitters.
(4) Impulse transmission across a chemical synapse is always faster than that across an electrical synapse.

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Q.9 Match **List-I** with **List-II** :

List-I		List-II	
a.	Multipolar neuron	i.	Somatic neural system
b.	Bipolar neuron	ii.	Cerebral cortex
c.	Myelinated nerve fibre	iii.	Retina of Eye
d.	Unmyelinated nerve fibre	iv.	Spinal nerves

Choose the correct answer from the options given below : [NEET (UG) 2022 (Phase 2)]

(1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
(2) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(3) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
(4) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)

Solution

Q.10 Match the following columns and select the correct option. [NEET (UG) 2020]

Column-I		Column-II	
a.	Organ of Corti	i.	Connects middle ear and pharynx
b.	Cochlea	ii.	Coiled part of the labyrinth
c.	Eustachian tube	iii.	Attached to the oval window
d.	Stapes	iv.	Located on the basilar membrane

(1) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)
(2) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
(3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Solution

Q.11 Which part of the brain is responsible for thermoregulation? [NEET (UG) 2019]

(1) Corpus callosum (2) Medulla oblongata
(3) Cerebrum (4) Hypothalamus

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Q.12 Which of the following statements is correct? [NEET (UG) 2019]

(1) Cornea is convex, transparent layer which is highly vascularised
(2) Cornea consists of dense matrix of collagen and is the most sensitive portion of the eye.
(3) Cornea is an external, transparent and protective proteinaceous covering of the eye-ball
(4) Cornea consists of dense connective tissue of elastin and can repair itself.

Scan or tap for the full solution

Q.13 Nissl's bodies are mainly composed of [NEET 2018]

(1) free ribosomes and RER
(2) proteins and lipids
(3) DNA and RNA
(4) nucleic acids and SER

Solution

Q.14 Which of the following structures or regions is incorrectly paired with its functions? [NEET 2018]

(1) Medulla oblongata : Controls respiration and cardiovascular reflexes
(2) Corpus callosum : Band of fibers connecting left and right cerebral hemispheres
(3) Hypothalamus : Production of releasing hormones and regulation of temperature, hunger and thirst
(4) Limbic system : Consists of fibre tracts that interconnect different regions of brain; controls movement

Scan or tap for the full solution

Q.15 The transparent lens in the human eye is held in its place by [NEET 2018]

(1) smooth muscles attached to the ciliary body
(2) ligaments attached to the ciliary body
(3) ligaments attached to the iris
(4) smooth muscles attached to the iris

Scan or tap for the full solution

Q.16 Myelin sheath is produced by [NEET 2017]

(1) astrocytes and Schwann cell
(2) oligodendrocytes and osteoclasts
(3) osteoclasts and astrocytes
(4) Schwann cells and oligodendrocytes.

Scan or tap for the full solution

Q.17 Receptor sites for neurotransmitters are present on [NEET 2017]

(1) pre-synaptic membrane
(2) tips of axons
(3) post-synaptic membrane
(4) membranes of synaptic vesicles.

Solution

Q.18 Good vision depends on adequate intake of carotene rich food.
Select the best option from the following statements.

A. Vitamin A derivatives are formed from carotene.
B. The photopigments are embedded in the membrane discs of the inner segment.
C. Retinal is a derivative of vitamin A.
D. Retinal is a light absorbing part of all the visual photopigments. [NEET 2017]

(1) A, C and D only (2) A and C only
(3) B, C and D only (4) A and B only

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Q.19 Photosensitive compound in human eye is made up of [NEET 2016 (Phase 1)]

(1) opsin and retinol
(2) transducin and retinene
(3) guanosine and retinol
(4) opsin and retinal.

Solution

Q.20 Choose the correct statement. [NEET 2016 (Phase 2)]

(1) Nociceptors respond to changes in pressure.
(2) Meissner's corpuscles are thermoreceptors.
(3) Photoreceptors in the human eye are depolarised during darkness and become hyperpolarised in response to the light stimulus.
(4) Receptors do not produce graded potentials.

Scan or tap for the full solution

Q.21 Destruction of the anterior horn cells of the spinal cord would result in loss of [AIPMT 2015]

(1) commissural impulses
(2) integrating impulses
(3) sensory impulses
(4) voluntary motor impulses.

Solution

Q.22 In mammalian eye, the 'fovea' is the center of the visual field, where [AIPMT 2015]

(1) only rods are present
(2) more rods than cones are found
(3) high density of cones occur, but has no rods
(4) the optic nerve leaves the eye.

Scan or tap for the full solution

Q.23 Which of the following regions of the brain is incorrectly paired with its function? [AIPMT 2015 (Cancelled)]

(1) Corpus callosum - communication between the left and right cerebral cortices
(2) Cerebrum - calculation and contemplation
(3) Medulla oblongata - homeostatic control
(4) Cerebellum - language comprehension

Scan or tap for the full solution

Q.24 A gymnast is able to balance his body upside down even in the total darkness because of [AIPMT 2015 (Cancelled)]

(1) tectorial membrane (2) organ of corti
(3) cochlea (4) vestibular apparatus.

Scan or tap for the full solution

Q.25 Injury localized to the hypothalamus would most likely disrupt [AIPMT 2014]

(1) short-term memory
(2) co-ordination during locomotion
(3) executive functions, such as decision making
(4) regulation of body temperature.

Scan or tap for the full solution

Q.26 Which one of the following statements is not correct? [AIPMT 2014]

(1) Retinal is the light absorbing portion of visual photo pigments.
(2) In retina the rods have the photopigment rhodopsin while cones have three different photopigments.
(3) Retinal is a derivative of vitamin C.
(4) Rhodopsin is the purplish red protein present in rods only.

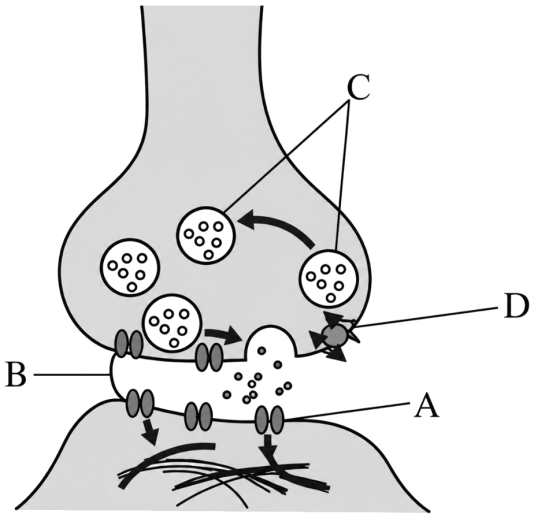
Scan or tap for the full solution

Q.27 The most abundant intracellular cation is [NEET 2013]

(1) H^+ (2) K^+ (3) Na^+ (4) Ca^{++}.

Scan or tap for the full solution

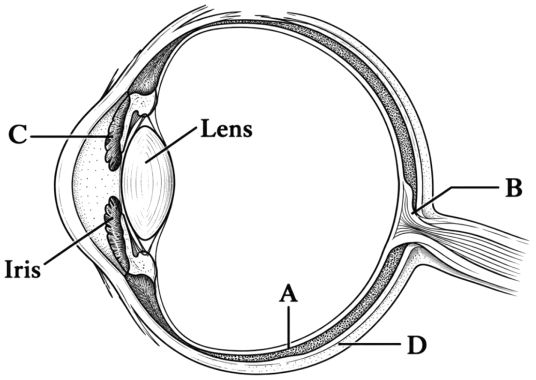
Q.28 A diagram showing axon terminal and synapse is given. Identify correctly at least two of A - D. [NEET 2013]



(1) A - Receptor, C - Synaptic vesicles
(2) A - Neurotransmitter, B - Synaptic cleft
(3) C - Neurotransmitter, D - Ca^{++}
(4) B - Synaptic connection, D - K^{+}

Scan or tap for the full solution

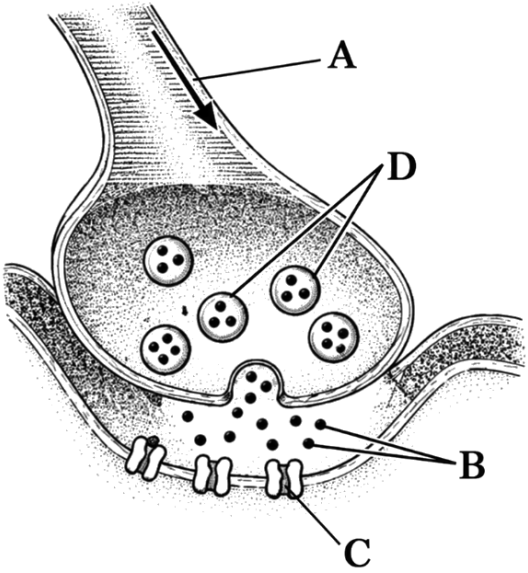
Q.29 Parts A, B, C and D of the human eye are shown in the diagram. Select the option which gives correct identification along with its functions/characteristics. [NEET 2013]



(1) B - Blind spot - Has only a few rods and cones.
(2) A - Retina - Contains photoreceptors, i.e., rods and cones.
(3) C - Aqueous chamber - Reflects the light which does not pass through the lens.
(4) D - Choroid - Its anterior part forms ciliary body.

Scan or tap for the full solution

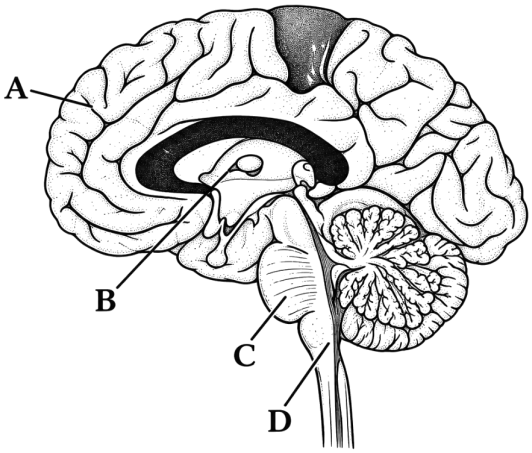
Q.30 The figure shows an axon terminal and synapse. Select the option giving correct identification of labels A-D. [NEET 2013 (Karnataka)]



(1) C-Receptor, D-Synaptic vesicles
(2) A-Axon terminal, B-Serotonin complex
(3) A-Action potential, C-Neurotransmitter
(4) B-Neurotransmitter, D-Receptor capsules

Scan or tap for the full solution

Q.31 A sagittal section of human brain is shown here. Identify at least two labels from A-D. [NEET 2013 (Karnataka)]



(1) A-Cerebral hemispheres, B-Cerebellum
(2) B-Corpus callosum, D-Medulla
(3) C-Mid brain, D-Cerebellum
(4) A-Cerebrum, C-Pons

Solution

Q.32 The human hind brain comprises three parts, one of which is [AIPMT 2012 (Prelims)]

(1) spinal cord (2) corpus callosum
(3) cerebellum (4) hypothalamus.

Scan or tap for the full solution

Q.33 Which part of the human ear plays no role in hearing as such but is otherwise very much required? [AIPMT 2012 (Prelims)]

(1) Eustachian tube (2) Organ of Corti
(3) Vestibular apparatus (4) Ear ossicles

Scan or tap for the full solution

Q.34 When a neuron is in resting state i.e., not conducting any impulse, the axonal membrane is [AIPMT 2011 (Prelims)]

(1) comparatively more permeable to Na^+ ions and nearly impermeable to K^+ ions
(2) equally permeable to both Na^+ and K^+ ions
(3) impermeable to both Na^+ and K^+ ions
(4) comparatively more permeable to K^+ ions and nearly impermeable to Na^+ ions.

Scan or tap for the full solution

Q.35 The purplish red pigment rhodopsin contained in the rod type of photoreceptor cells of the human eye, is a derivative of [AIPMT 2011 (Prelims)]

(1) vitamin B_1 (2) vitamin C
(3) vitamin D (4) vitamin A

Scan or tap for the full solution

Q.36 Select the answer with correct matching of the structure, its location and function. [AIPMT 2010 (Mains)]

(1)

Structure	Location	Function
Eustachian tube	Anterior part of internal ear	Equalises air

(2)

Structure	Location	Function
Cerebellum	Midbrain	Controls respiration and gastric secr

(3)

Structure	Location	Function
Hypothalamus	Forebrain	Controls body temperature, urge

(4)

Structure	Location
Blind spot	Near the place where optic nerve leaves the eye

Scan or tap for the full solution

Q.37 The nerve centres which control the body temperature and the urge for eating are contained in [AIPMT 2010 (Prelims)]

(1) hypothalamus (2) pons
(3) cerebellum (4) thalamus

Scan or tap for the full solution

Q.38 Alzheimer's disease in humans is associated with the deficiency of [AIPMT 2009]

(1) glutamic acid
(2) acetylcholine
(3) gamma aminobutyric acid (GABA)
(4) dopamine.

Scan or tap for the full solution

Q.39 Which part of human brain is concerned with the regulation of body temperature? [AIPMT 2009]

(1) Cerebellum (2) Cerebrum
(3) Hypothalamus (4) Medulla oblongata

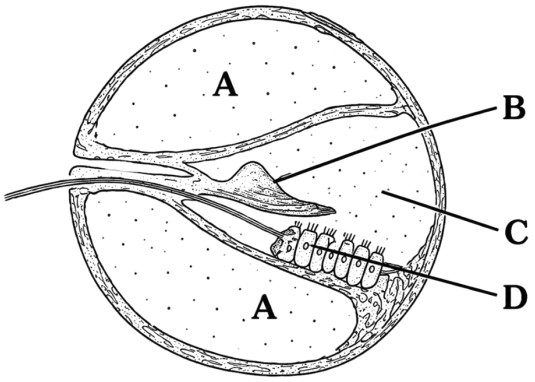
Scan or tap for the full solution

Q.40 During the propagation of a nerve impulse, the action potential results from the movement of [AIPMT 2008]

(1) K^+ ions from intracellular fluid to extracellular fluid
(2) Na^+ ions from extracellular fluid to intracellular fluid
(3) K^+ ions from extracellular fluid to intracellular fluid
(4) Na^+ ions from intracellular fluid to extracellular fluid

Scan or tap for the full solution

Q.41 Given below is a diagrammatic cross section of a single loop of human cochlea.



Which one of the following options correctly represents the names of three different parts? [AIPMT 2008]

(1) B : Tectorial membrane, C : Perilymph, D : Secretory cells
(2) A : Perilymph, B : Tectorial membrane, C : Endolymph
(3) C : Endolymph, D : Sensory hair cells, A : Serum
(4) D : Sensory hair cells, A : Endolymph, B : Tectorial membrane

Scan or tap for the full solution

Q.42 Cornea transplant in humans is almost never rejected. This is because [AIPMT 2008]

(1) it is composed of enucleated cells
(2) it is a non-living layer

(3) its cells are least penetrable by bacteria
(4) it has no blood supply

Scan or tap for the full solution

Q.43 Which one of the following is the correct difference between rod cells and cone cells of our retina? [AIPMT 2008]

(1)

	Rod cells	Cone cells
Overall function	Vision in poor light	Colour vision and detailed vision in bright light

(2)

	Rod cells	Cone cells
Distribution	More concentrated in centre of retina	Evenly distributed all over retina

(3)

	Rod cells	Cone cells
Visual acuity	High	Low

(4)

	Rod cells	Cone cells
Visual pigment contained	Iodopsin	Rhodopsin

Scan or tap for the full solution

Q.44 During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric change? [AIPMT 2007]

(1) First positive, then negative and continue to be negative
(2) First negative, then positive and continue to be positive
(3) First positive, then negative and again back to positive
(4) First negative, then positive and again back to negative

Scan or tap for the full solution

Q.45 Bowman's glands are located in the [AIPMT 2007]

(1) Anterior pituitary
(2) Female reproductive system of cockroach
(3) Olfactory epithelium of our nose
(4) Proximal end of uriniferous tubules

Scan or tap for the full solution

Q.46 Which one of the following pairs of structures distinguishes a nerve cell from other types of cell? [AIPMT 2007]

(1) Perikaryon and dendrites
(2) Nucleus and mitochondria
(3) Flagellum and medullary sheath
(4) Vacuoles and fibres

Solution

Q.47 Which one of the following does not act as a neurotransmitter? [AIPMT 2006]

(1) Cortisone (2) Acetylcholine
(3) Epinephrine (4) Norepinephrine

Scan or tap for the full solution

Q.48 Which one of the following is an example of the action of the autonomic nervous system? [AIPMT 2005]

(1) Swallowing of food
(2) Pupillary reflex
(3) Peristalsis of the intestine
(4) Knee-jerk response

Solution

Q.49 In a man, abducens nerve is injured. Which one of the following functions will be affected? [AIPMT 2005]

(1) Movement of the eyeball
(2) Movement of the tongue
(3) Swallowing
(4) Movement of the neck

Solution

Q.50 Parkinson's disease (characterized by tremors and progressive rigidity of limbs) is caused by degeneration of brain neurons that are involved in movement control and make use of neurotransmitter [AIPMT 2005]

(1) acetylcholine (2) norepinephrine
(3) dopamine (4) GABA

Scan or tap for the full solution

Q.51 Four healthy people in their twenties got involved in injuries resulting in damage and death of a few cells of the following. Which of the cells are least likely to be replaced by new cells - [AIPMT 2005]

(1) Malpighian layer of the skin
(2) Osteocytes
(3) Neurons
(4) Liver cells

Solution

Q.52 In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive [AIPMT 2004]

(1) K^+ into the cell
(2) K^+ and Na^+ out of the cell
(3) Na^+ into the cell
(4) Na^+ out of the cell.

Solution

Q.53 Injury to vagus nerve in humans is not likely to affect [AIPMT 2004]

(1) tongue movements
(2) gastrointestinal movements
(3) pancreatic secretion
(4) cardiac movements.

Solution

Q.54 What used to be described as Nissl's granules in a nerve cell are now identified as [AIPMT 2003]

(1) cell metabolites (2) fat granules
(3) ribosomes (4) mitochondria.

Scan or tap for the full solution

Q.55 Which of the following statements is correct for node of Ranvier of nerve? [AIPMT 2002]
(1) Neurilemma is discontinuous
(2) Myelin sheath is discontinuous
(3) Both neurilemma and myelin sheath are discontinuous
(4) Covered by myelin sheath

Scan or tap for the full solution

Q.56 When we migrate from dark to light, we fail to see for some time but after a time visibility becomes normal. It is an example of [AIPMT 2001]
(1) accommodation (2) adaptation
(3) mutation (4) photoperiodism

Scan or tap for the full solution

Q.57 Which of the following statements is the characteristic of human cornea? [AIPMT 2001]
(1) It is secreted by conjunctiva and glandular layer.
(2) It is a lacrimal gland which secretes tears.
(3) Blood circulation is absent in cornea.
(4) In old age it becomes the cause of cataract.

Scan or tap for the full solution

Q.58 Depolarization of axolemma during nerve conduction takes place because of [AIPMT 2000]
(1) equal amount of Na^+ and K^+ move out across axolemma
(2) Na^+ move inside and K^+ move more outside
(3) more Na^+ outside
(4) none of these

Scan or tap for the full solution

Q.59 Which food should be eaten during deficiency of rhodopsin in eyes? [AIPMT 2000]
(1) Carrot and ripe papayas
(2) Guava, banana
(3) Mango and potato
(4) None of the above

Solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	2	1	2	3	1	4	4	4	1	2	4
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	3	1	4	2	4	3	1	4	3	4	3
Ques.	23	24	25	26	27	28	29	30	31	32	33
Ans.	4	4	4	3	2	1	2	1	4	3	3
Ques.	34	35	36	37	38	39	40	41	42	43	44
Ans.	4	4	3	1	2	3	2	2	4	1	4
Ques.	45	46	47	48	49	50	51	52	53	54	55
Ans.	3	1	1	3	1	3	3	3	1	3	2
Ques.	56	57	58	59							
Ans.	2	3	2	1							

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