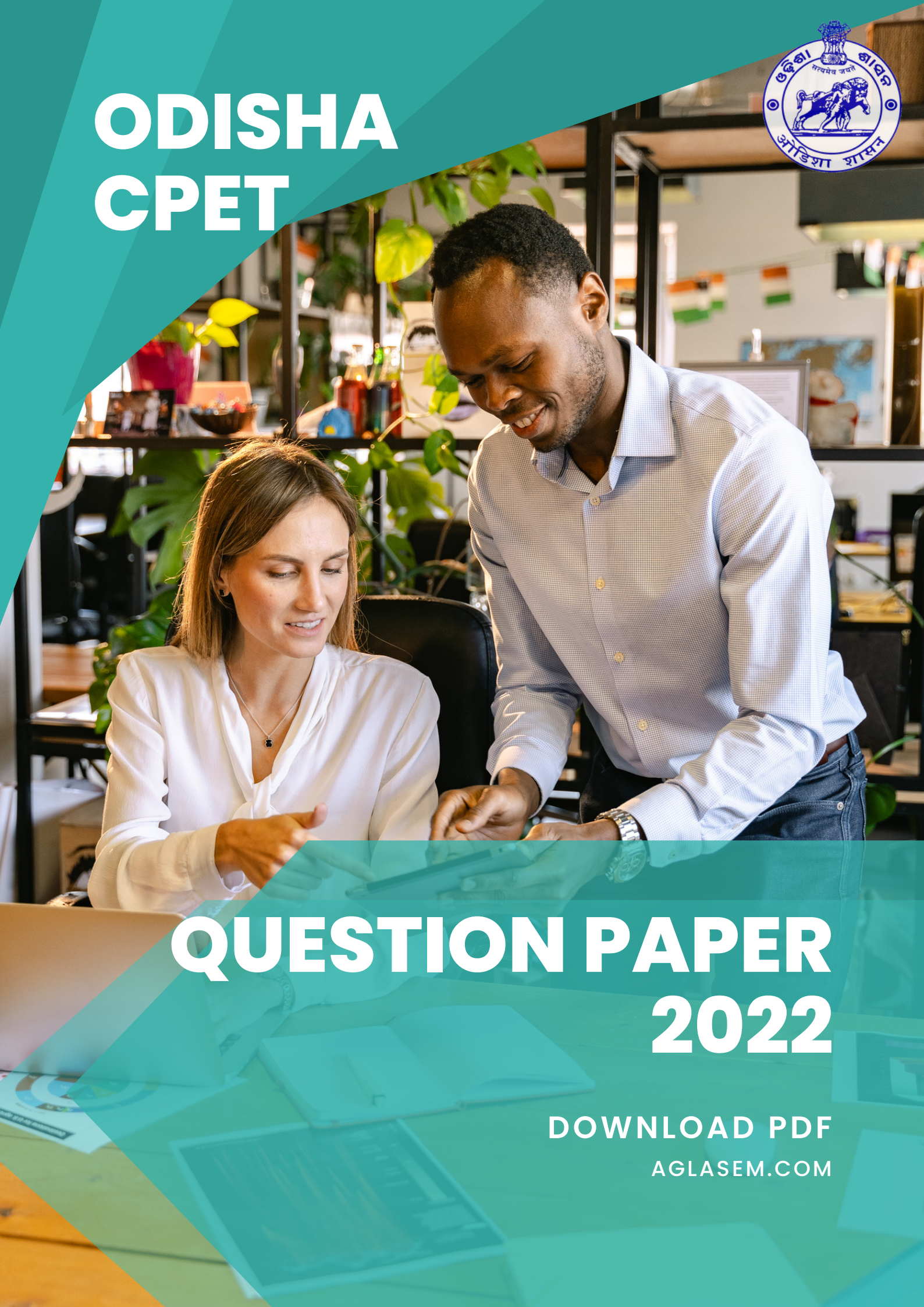
ODISHA CPET



QUESTION PAPER 2022

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COMMON P.G. ENTRANCE TEST–2022 (CPET-2022)

Subject Code : **51**

Test Booklet No.:

Entrance Subject : **Environmental Studies**
(Arts/Science)

Hall Ticket No.:

TEST BOOKLET

Time Allowed : **90** Minutes

Full Marks : **70**

INSTRUCTIONS TO CANDIDATES

1. **Please do not open this Question Booklet until asked to do so.**
2. Check the completeness of the Question Booklet immediately after opening.
3. Enter your **Hall Ticket No.** on the Test Booklet in the box provided alongside. **Do not** write anything else on the Test Booklet.
4. Fill up & darken Hall Ticket No. & Test Booklet No. in the OMR Answer Sheet as well as fill up Test Booklet Serial No. & OMR Answer Sheet Serial No. in the Attendance Sheet carefully. Wrongly filled up OMR Answer Sheets are liable for rejection.
5. Each question has four answer options marked (A), (B), (C) & (D).
6. Answers are to be marked on the Answer Sheet, which is provided separately.
7. Choose the most appropriate answer option and darken the oval completely, corresponding to (A), (B), (C) or (D) against the relevant question number.
8. Use only **Blue/Black Ball Point Pen** to darken the oval for answering.
9. Please do not darken more than one oval against any question, as scanner will read such markings as wrong answer.
10. **Each question carries equal marks. There will be no negative marking for wrong answer.**
11. **Electronic items such as calculator, mobile, etc., are not permitted inside the examination hall.**
12. Don't leave the examination hall until the test is over and permitted by the invigilator.
13. **The candidate is required to handover the original OMR sheet to the invigilator and take the question booklet along with the candidate's copy of OMR sheet after completion of the test.**
14. Sheet for rough work is appended in the Test Booklet at the end.

1. Who proposed the term "ecology"?

(A) Haekel

(B) Odum

(C) Daubenmire

(D) Reiter

2. Which of the following categories is available to plants?

(A) Run-off water

(B) Gravitational water

(C) Hygroscopic water

(D) Capillary water

3. Mangrove vegetation is found in

(A) Dehradun valley

(B) Kullu valley

(C) Chilika lagoon

(D) Sunderbans

4. In ecology, the term "Aeolian Factor" refers to the _____.

(A) Salinity

(B) Wind

(C) Temperature

(D) Soil

5. Which of one the following term is best suitable to a population of individuals from the same genetic stock but differing in their morphology?

(A) Ecotype

(B) Ecad

(C) Ecotone

(D) Life form

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6. The transition zone between two different types of communities is called as _____.

(A) Biome

(B) Ecotone

(C) Biological spectrum

(D) Biological clock

7. _____ is the science dealing with the study of the biological, chemical, and physical features of lakes and other bodies of fresh water.

(A) Geology

(B) Limnology

(C) Pedology

(D) Cosmology

8. A soil particle of size 0.03mm belongs to the class of

(A) Coarse sand

(B) Silt

(C) Fine sand

(D) Clay

9. The percentage of argon in the atmosphere is

(A) 9%

(B) 0.35%

(C) 0.9%

(D) 3%

10. Mulching helps in

(A) Moisture conservation

(B) Weed control

(C) Improvement of soil structure

(D) Increasing soil fertility

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11. 5th of June is celebrated as

(A) World environment day

(B) Darwin's birthday

(C) World health and hygiene day

(D) World population day

12. Removal of soil by the action of water or wind is called

(A) Salination

(B) Erosion

(C) Fossilization

(D) Emulsification

13. When the vegetation of any region reaches climatic climax, it is known as

(A) Lithophytic

(B) Xerophytic

(C) Mesophytic

(D) Hydrophytic

14. The invasion of a new community in a bare area is initiated by _____.

(A) Migration

(B) Ecesis

(C) Aggregation

(D) Segregation

15. Biological equilibrium is the balance between

(A) Producers and themselves

(B) Producers and consumers

(C) Producers and decomposers

(D) Producers and consumers and decomposers

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16. In a lake ecosystem, the pyramid of biomass is

(A) Upright

(B) Inverted

(C) Right skewed

(D) Left skewed

17. If carbon dioxide is withdrawn from the biosphere, which organism would first experience negative effects?

(A) Primary consumers

(B) Producers

(C) Secondary consumers

(D) Tertiary consumers

18. Which one of the following is a renewable source of energy

(A) Petroleum

(B) Coal

(C) Wind energy

(D) All of the above

19. The cycling of elements in an ecosystem is called

(A) Biological cycle

(B) Chemical cycle

(C) Geological cycle

(D) Biogeochemical cycle

20. In fish aquarium green aquatic plants are grown primarily for

(A) Oxygen

(B) Carbon dioxide

(C) Fish feed

(D) Decoration

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21. Which ecological cycle is directly driven by sunlight?

(A) Nitrogen

(B) Phosphorous

(C) Hydrologic

(D) Sulphur

22. Which of the following enhances B.O.D. of water?

(A) Algae

(B) Sand

(C) Moss

(D) Sugar mill effluents

23. The component of a living cell affected by the pollutant SO2 is

(A) Nucleus

(B) All cell membrane system

(C) Cell wall

(D) Plasmodesmata

24. The crust floats on the upper part of mantle known as

(A) Lower crust

(B) Asthenosphere

(C) Barysphere

(D) Lithosphere

25. Which of the following gases commonly referred to as 'green house gases'?

(A) CH_4, N_2, CO_2 and NH_3

(B) CO_2, O_2, NO_2, NH_3

(C) CFC, CO_2, NH_3, N_2

(D) CO_2, CFC, CH_4, NO_2

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26. The gas liberated in Bhopal gas tragedy was

(A) Methyl isocynate

(B) Phenyl isocynate

(C) Ethylene

(D) Acetylene

27. Acid rain is mainly caused by increased concentration (in atmosphere) of

(A) Ozone and dust

(B) NO_2 and SO_2

(C) CO and CO_2

(D) NH_3 and SO_3

28. Thermal pollution in water bodies is caused due to the discharge of

(A) Hot water from power plants

(B) Hot chemicals from industries

(C) Waste from mines

(D) Waste from agricultural fields

29. When excess of sewage is dumped in the river, its B.O.D.

(A) Increases

(B) Slightly decreases

(C) Remains unchanged

(D) Decreases drastically

30. The enrichment of water by nutrients is known as _____.

(A) Mineralization

(B) Oligorophication

(C) Eutrophication

(D) Biomagnification

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31. In the atmosphere, U.V. radiations are absorbed in the zone called

(A) Troposphere

(B) Stratosphere

(C) Mesosphere

(D) Thermosphere

32. The 'blue baby syndrome' is caused due to contamination by

(A) Chlorides

(B) Cyanides

(C) Fluorides

(D) Nitrates

33. The noise created at the launching of space rocket measures around

(A) 120 db

(B) 150 db

(C) 180 db

(D) 240 db

34. The 'Earth summit' was held at

(A) Geneva

(B) New Delhi

(C) Sydney

(D) Rio-de-Janerio

35. Most harmful heavy metals causing water pollution are

(A) Pb, Hg, Cr, Cd

(B) P, Mn, B, Mg

(C) N, K, Mo

(D) Zn, Mn, Mg, Ag

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36. Which of the following is a human-engineered ecosystem?

(A) Evergreen Forest

(B) Banni Grassland

(C) Aquaculture Farm

(D) Desert Sand dunes

37. Sunderban Biosphere Reserve is in:

(A) West Bengal

(B) Odisha

(C) Andhra Pradesh

(D) Tamil Nadu

38. Density of water is maximum at

(A) 253 K

(B) 263 K

(C) 273 K

(D) 283 K

39. In which mode of expression, the concentration of solution remains independent of temperature?

(A) Molarity

(B) Normality

(C) Formality

(D) Molality

40. Increasing the temperature of an aqueous solution will cause

(A) Decrease in molality

(B) Decrease in molarity

(C) Decrease in mole fraction

(D) Decrease in % w/w

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41. Ideal solution is formed when its components have

(A) Zero heat of mixing

(B) Zero heat of boiling

(C) Zero heat of freezing

(D) Zero heat of melting

42. Intensity of scattered light depends upon the difference of which of the following property of the dispersed phase and the dispersion medium?

(A) Densities

(B) Viscosities

(C) Surface tension

(D) Refractive indices

43. The emulsifying agent present in milk that makes it stable is

(A) Lactose

(B) Maltose

(C) Casein

(D) Lactic bacilli

44. What is the mass percent of carbon in carbon dioxide?

(A) 0.034%

(B) 27.27%

(C) 3.4%

(D) 28.7%

45. How many unpaired electrons are present in cobalt [Co] metal?

(A) 2

(B) 3

(C) 5

(D) 6

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46. Neutron was discovered by:

(A) J. J. Thomson

(B) G. T. Seaborg

(C) E. Rutherford

(D) James Chadwick

47. The elements with atomic numbers 35, 53 and 85 are all:

(A) Noble gases

(B) Halogens

(C) Heavy metals

(D) Light elements

48. Which of the following element does not occur in liquid form?

(A) Hg

(B) Li

(C) Ga

(D) Br

49. Which pair of atomic numbers represents s-block elements?

(A) 7, 15

(B) 6, 12

(C) 9, 17

(D) 3, 12

50. Which of the following is the most electronegative element?

(A) Chlorine

(B) Oxygen

(C) Sulphur

(D) Fluorine

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51. In which of the following substances will hydrogen bond be strongest?

(A) HCl

(B) H_2O

(C) HNO_3

(D) H_2S

52. The gas with highest critical temperature is:

(A) H_2

(B) NO_2

(C) O_2

(D) CO_2

53. When the temperature is increased, surface tension of water

(A) Increases

(B) Decreases

(C) Remains constant

(D) Shows irregular behaviour

54. An earthquake is rated as 'major' if its magnitude in Richter Scale is in the range of

(A) 4.0 – 4.9

(B) 7.0 – 7.9

(C) 6.0 – 6.9

(D) 5.0 – 5.9

55. Photochemical smog is an atmospheric process. Which of the combination of parameters are required for the same?

(A) NO_x + VOCs + sunlight

(B) NO_x + Sunlight

(C) VOC_s + Sunlight

(D) NO_x + VOCs

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56. Which of the following process is known to take place at constant temperature?

(A) Adiabatic Process

(B) Isothermal Process

(C) Isohydric Process

(D) Isometric process

57. The reaction in which heat is absorbed is known as

(A) Exothermic reaction

(B) Endothermic reaction

(C) Reversible reaction

(D) Irreversible reaction

58. The total heat content of the system at constant pressure is called as

(A) Entropy

(B) Enthalpy

(C) Path function

(D) State function

59. The maximum amount of energy available to a system that can be converted into useful work is known as:

(A) Potential energy

(B) Kinetic energy

(C) Free energy

(D) Bond energy

60. pH refers to

(A) +ve logarithm of H+ ion concentration

(B) -ve logarithm of H+ ion concentration

(C) +ve logarithm of OH- ion concentration

(D) -ve logarithm of OH- ion concentration

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61. Antacids are substances used to decrease gastric acidity by neutralising

(A) Sulphuric acid

(B) Nitric acid

(C) Hydrochloric acid

(D) Carbonic acid

62. Weedicides are the chemicals used to control

(A) Herbs

(B) Shrubs

(C) Trees

(D) Weeds

63. _____ has experienced a major Smog episode in the past?

(A) Paris

(B) Stockholm

(C) London

(D) California

64. Which of the following river drains into Arabian sea?

(A) Mahanadi

(B) Godavari

(C) Tapi

(D) Krishna

65. Which of the following disease is caused by the particulates of asbestos?

(A) Silicosis

(B) Asbestosis

(C) Elephantiasis

(D) None of the above

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66. The process for manufacturing of soap is known as

(A) Fortification

(B) Humification

(C) Saponification

(D) Calcification

67. The second-most abundant oxide in the Earth's crust is:

(A) Al_2O_3

(B) SiO_2

(C) CaO

(D) Na_2O

68. The radius of earth is

(A) 6000 km

(B) 6371 km

(C) 7371 km

(D) 5500 km

69. The Coriolis force is maximum

(A) At the equator

(B) At the pole

(C) At 30°- 60° region

(D) None of these

70. The K2 Peak is in which among the following ranges?

(A) Central Himalayas

(B) Trans-Himalayas

(C) Karakoram range

(D) Kumaun Himalayas

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