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ROLL No. 

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QN. BOOKLET No.

050

TEST FOR POST GRADUATE PROGRAMMES

ZOOLOGY

Time: 2 Hours

Maximum Marks: 450

INSTRUCTIONS TO CANDIDATES

1. You are provided with a Question Booklet and an Optical Mark Reader (OMR) Answer Sheet to mark your responses. Do not soil your OMR Sheet. Read carefully all the instructions given on the OMR Sheet.
2. Write your Roll Number in the space provided on the top of this page.
3. Also write your Roll Number, Test Code, Test Centre Code, Test Centre Name, Test Subject and the date and time of the examination in the columns provided for the same on the Answer Sheet. Darken the appropriate bubbles with HB pencil.
4. The paper consists of 150 objective type questions. All questions carry equal marks.
5. Each Question has four alternative responses marked A, B, C and D and you have to darken the bubble fully by HB pencil corresponding to the correct response as indicated in the example shown on the Answer Sheet. Also write the alphabet of your response with ball pen in the starred column against attempted questions and put an 'x' mark by ball pen in the starred column against unattempted questions as given in the example in the OMR Sheet.
6. Each correct answer carries 3 marks and each wrong answer carries 1 minus mark.
7. Please do your rough work only on the space provided for it at the end of this question booklet.
8. You should return the Answer Sheet to the Invigilator before you leave the examination hall. However Question Booklet may be retained with the Candidate.
9. Every precaution has been taken to avoid errors in the Question Booklet. In the event of such unforeseen happenings, suitable remedial measures will be taken at the time of evaluation.
10. Please feel comfortable and relaxed. You can do better in this test in a tension-free disposition.

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1. Malarial parasite belongs to the order
  - (A) sarcodina
  - (B) haemosporidia
  - (C) volvocales
  - (D) plasmodium
2. Endo-erythrocytic cycle in *Plasmodium vivax* occurs in
  - (A) mosquitoes
  - (B) bedbugs
  - (C) humans
  - (D) armadillos
3. Vorticella is a ciliated
  - (A) mesozoan larva
  - (B) echiniderm larva
  - (C) protozoa
  - (D) rotifera
4. Circumvallation is a process of ingestion in
  - (A) protozoa
  - (B) mesozoa
  - (C) flagellates
  - (D) None of the above
5. Choanocytes are flagellate cells found in
  - (A) flat worms
  - (B) annelids
  - (C) insects
  - (D) sponges
6. Amphiblastula larva occurs in
  - (A) echinoderms
  - (B) molluscs
  - (C) sponges
  - (D) platyhelminthes
7. 'Portuguese man of war' is a
  - (A) Portuguese soldier
  - (B) a giant coral reef
  - (C) Polymorphic colonial coelenterate
  - (D) a giant sponge
8. Coelentrates have
  - (A) true coelom
  - (B) acoelomatic structure
  - (C) triploblastic
  - (D) None of the above



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9. Larvae of Coelenterates are known as
- (A) actinotrocha (B) bipinnaria  
(C) glochidium (D) planula
10. Which one of the following annelids is phosphorescent in dark?
- (A) *Pheritima* (B) *Megascolex*  
(C) *Chaetopterus* (D) *Sabella*
11. The bird that takes the longest migration
- (A) Arctic tern (B) Flamingo  
(C) Pelican (D) Stark
12. Which one of the following phenomena occurs in the reproduction of certain polychaetes?
- (A) Schizogony (B) Endomyxis  
(C) Epitoky (D) Metagenesis
13. 'Binomial nomenclature' of organisms indicate
- (A) a scientific and a popular name  
(B) different names proposed by different scientists  
(C) names that indicate genus and species  
(D) species name and a name derived from place of discovery
14. The largest Barrier Reef of the world is in
- (A) India (B) New Zealand  
(C) Australia (D) West Indies
15. What is the most important part of an egg called?
- (A) Yolk (B) Shell  
(C) Germ (D) Nucleus
16. Sea lily belongs to the class
- (A) crinoidea (B) asteroidea  
(C) holothuria (D) echinoidea



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17. Which animal can look two ways at the same time?
- (A) Tortoise (B) Lizard  
(C) Snake (D) Chameleon
18. Which animal is the main attraction in Assam's Kaziranga National Park?
- (A) Zebra (B) Ziraffe  
(C) Black lion (D) The one-horned Rhinoceros
19. Which one of the following classes is represented only by fossil forms?
- (A) Amphibia (B) Placodermi  
(C) Agnatha (D) Crocadelia
20. Ingestion of solid particles by cells is known as
- (A) phagocytosis (B) pinocytosis  
(C) osmosis (D) import
21. During the life cycle of an ascidian, notochord
- (A) changes into nervechord (B) absent  
(C) seen only in the larva (D) seen only in adults
22. The symbiotic algae associated with corals are known as
- (A) Volovox (B) Chlanmidomonas  
(C) Euglena (D) Zoozanthellae
23. *Bipalium* belongs to
- (A) tricladida (B) polycladida  
(C) trematoda (D) cestoda
24. Tape worms respire by
- (A) ctenidia (B) pulmanery chamber  
(C) anaerobically (D) aerobically
25. Among Molluscs, the most complex nervous system is seen in
- (A) gastropoda (B) cephalopoda  
(C) onychophota (D) tardigrada



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26. Eye of a mammal differs from that of birds in not having
- (A) pecten (B) lens  
(C) retina (D) iris
27. Blubber is found in
- (A) kangaroo (B) ox  
(C) whale (D) otter
28. Lac is an
- (A) excretory product (B) secretory product  
(C) solidified mucus (D) faecal matter
29. Reminance of caecum in higher mammals is known as
- (A) vermiform appendix (B) ascending colon  
(C) colon (D) rectum
30. Among mammals, shortest gestation period is seen in
- (A) Platypus (B) Kangaroo  
(C) Bat (D) Opossum
31. International convention on Biological Diversity was held at Rio-dê-Janerio in
- (A) 1992 (B) 1990  
(C) 2000 (D) 2007
32. Which of these is totally an aquatic animal?
- (A) Mud turtle (B) Box turtle  
(C) Painted turtle (D) Tortoise
33. Tissues covering or lining body organs are known as
- (A) connective tissues (B) epithelial tissues  
(C) tendens (D) botie tissues



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34. Tissues connecting bone to bone are
- (A) connective tissues (B) tendons  
(C) ligament (D) synovial membrane
35. Mammary glands of higher mammals are modified
- (A) sweat glands (B) spleen  
(C) endocrine glands (D) sebaceous glands
36. Which is the Fastest land animal?
- (A) Antelope (B) Gazelle  
(C) Hare (D) Cheetah
37. Toxic substance discharged by the blister beetles contain
- (A) cantharidine (B) cyanic acid  
(C) acetic acid (D) sulphurous acid
38. Heart beat originates from
- (A) left auricle (B) pace maker  
(C) right ventricle (D) cardiac muscles
39. In any experimental study, the controls
- (A) allow a standard comparison for experimental group  
(B) make it valid  
(C) are only replicates for statistical purpose  
(D) reduces the error
40. Which is the longest snake?
- (A) King Cobra (B) Reticulated Python  
(C) Anaconda (D) Viper
41. The phenomenon that splits the population into smaller, most successful breeding groups is known as
- (A) habitat fragmentation (B) niche segregation  
(C) habitat selection (D) artificial selection



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42. A flagellate that can cause red tides is
- (A) *Noctiluca scintillans* (B) *Euglena acus*  
(C) *Mesodinium rubrum* (D) *Didinium nasuata*
43. Who wrote the book "The Origin of Species"?
- (A) Louis Pasteur (B) Sir Alexander Fleming  
(C) Charles Darwin (D) Stephen Hawkin
44. Essentially the first law of thermodynamics states
- (A) one form of energy cannot be converted into another  
(B) entropy is increasing  
(C) energy can neither be created nor destroyed  
(D) energy tends to become increasingly more disorganised
45. Endostyle in Ammocoetus is modified in lamprey as
- (A) thyroid (B) thymus  
(C) pituitary (D) tonsils
46. In young animals, the phenomenon of learning to recognize and approach some large moving object is known as
- (A) inbreeding (B) imprinting  
(C) instinctive behaviour (D) reflex action
47. A pain produced in an internal organ may be perceived as occurring somewhere else. This is referred to as
- (A) hypochondria (B) psychosomatic pain  
(C) phantom pain (D) referred pain
48. Which is the flightless bird found in South America?
- (A) Ostrich (B) Cassowary  
(C) Rhea (D) Emu
49. In humans, which nature cell does not have a nucleus?
- (A) Erythrocytes (B) Lymphocytes  
(C) Leukocytes (D) Monocytes



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50. In eukaryotic cells, lysosomes are referred to as
- (A) energy bags (B) killer cells  
(C) suicidal bags (D) check points
51. Succession of larvae is seen in the reproduction of
- (A) sponge (B) liver fluke  
(C) obelia (D) planarian
52. Ethanol (beverage alcohol) is an inhibitor of ADH. Therefore, a person consuming a couple of mixed drinks should excrete
- (A) less water because ADH inhibits reabsorption  
(B) more water because ADH normally promotes reabsorption  
(C) ketone bodies formed from the alcohol  
(D) alcohol because ADH cannot degrade it
53. The greatest concentration of nitrogen is found in
- (A) oceans (B) estuaries  
(C) rivers (D) atmosphere
54. Numerous pairs of stumpy unjointed legs are seen in
- (A) onychophora (B) pycnogonoidea  
(C) trilobita (D) pentastomida
55. Hirudanarians are
- (A) detritivorous (B) algivorous  
(C) sanguivorous (D) bacterivorous
56. In man, breathing with mouth diminishes
- (A) filtering (B) warming  
(C) moisturizing (D) texturizing
57. The common name of *Taenia solium* is
- (A) pork worm (B) guinea worm  
(C) pin worm (D) round worm





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58. Schistosomiasis is caused by
- (A) liver fluke (B) tape worm  
(C) blood fluke (D) None of the above
59. Simplest type of canal system in sponges is
- (A) ascon type (B) sycon type  
(C) leucon type (D) uryphylous
60. The famous "Chipko movement" was started by
- (A) Indira Gandhi (B) Rajiv Gandhi  
(C) Salim Ali (D) Sundarlal Bahuguna
61. The source of Ivory is
- (A) blubber of whale (B) bone of camel  
(C) tusk of elephant (D) horns of deer
62. In man, the system that does NOT dispose any waste material directly to the environment is
- (A) digestive system (B) respiratory system  
(C) excretory system (D) circulatory system
63. Azolla is an example of
- (A) biomarker (B) bioindicator  
(C) biofertiliser (D) biotoxin
64. Sliding filament theory explains the physiology of
- (A) nerve impulse (B) muscle contraction  
(C) exchange of gases (D) protein synthesis
65. A study of an individual species and its environment is known as
- (A) synecology (B) autecology  
(C) population biology (D) community ecology



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66. The process of filtration in the glomerulus is driven by
- (A) active transport                      (B) hydrostatic pressure  
(C) osmosis                                  (D) dialysis
67. In man, the vitamin essential for blood clotting is
- (A) Vitamin A                                (B) Vitamin B<sub>12</sub>  
(C) Vitamin B                                (D) Vitamin K
68. Pyruvate is the end product of
- (A) Kreb's cycle                              (B) anaerobic glycolysis  
(C) aerobic glycolysis                      (D) ornithine cycle
69. Blood vessels that carry pure blood from lungs to heart are
- (A) coronary arteries                      (B) pulmonary arteries  
(C) precaval vein                              (D) pulmonary vein
70. Ligaments and tendons are formed by
- (A) connective tissue                      (B) epithelial tissue  
(C) nervous tissue                              (D) muscle tissue
71. Pelagic larval stage in the life cycle of Scyphozoa is known as
- (A) veliger                                      (B) trochophore  
(C) ephyra                                      (D) Muller's larva
72. Among insects, the component of the compound eye that forms the image is known as
- (A) rhodopsin                                (B) ommatidium  
(C) cornea                                      (D) lens
73. Extra intestinal migration occurs during the life cycle of
- (A) taenia                                      (B) fasciola  
(C) ascaris                                      (D) enterobius



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74. In man, syndromes are caused by
- (A) pleiotropic genes (B) jumping genes  
(C) oncogenes (D) pseudogene
75. Which one of the following is the correct sequence of ecosystem in the order of decreasing productivity?
- (A) Oceans, lakes, grasslands and mangroves  
(B) Mangroves, oceans, lakes and grasslands  
(C) Oceans, mangroves, grasslands and lakes  
(D) Mangroves, grasslands, lakes and oceans
76. Nerve cord in leeches is found in
- (A) dorsally (B) between muscles  
(C) in the ventral sinus (D) in the ventral vessels
77. In animals, horns, nails and hoofs are made of
- (A) chitin (B) keratin  
(C) tunicin (D) cuticle
78. Lacrymal glands are responsible for secretion of
- (A) tears (B) saliva  
(C) IN HCl (D) fatty acid
79. The relationship between birth rate and death rate referred to as rate of increase for a population ( $r$ ) is
- (A) their sum (B) their product  
(C) doubling time between them (D) difference between them
80. Diastema is the space between
- (A) incisors and premolars (B) canines and molars  
(C) premolars and molars (D) incisors and canines
81. *Sphenodon* is found in
- (A) Mauritius (B) Medagascar  
(C) New Zealand (D) Madrid



82. Ovum is motile in
- (A) *Shigella* (B) *Myxobolus*  
(C) *Sycon* (D) *Hydra*
83. *Ichthyophis* is an example of
- (A) sea snake (B) flying lizard  
(C) limbless lizard (D) limbless amphibian
84. Desmosomes are associated with
- (A) epithelial tissue (B) nervous tissue  
(C) connective tissue (D) adipose tissue
85. Oxyhaemoglobin gives up oxygen when
- (A) pH is high (B) CO<sub>2</sub> concentration is high  
(C) body temperature is low (D) CO<sub>2</sub> concentration is low
86. Book lungs are found in
- (A) prawns (B) crabs  
(C) scorpions (D) centipedes
87. Representative of sub-phylum Cephalochordata is
- (A) *Branchiostoma* (B) *Saccoglossus*  
(C) *Balanoglossus* (D) *Ascidia*
88. Feathery tracts of birds are called
- (A) retrices (B) apterylae  
(C) remiges (D) pterylae
89. Application of genetic engineering techniques to alter or replace a defective gene is known as
- (A) gene splicing (B) gene cloning  
(C) gene therapy (D) gene sequencing



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90. Loreal pit that is sensitive to heat is seen in
- (A) *Naja naja* (B) *Hydrophis*  
(C) *Vipera russeli* (D) *Necatrx*
91. In birds, flight muscles are attached to
- (A) keel of sternum (B) scapula  
(C) clavicle (D) coracoid plexus
92. Evisceration takes place in
- (A) star fish (B) sea -lily  
(C) sea-cucumber (D) sea- urchin
93. Tomaria is the larval stage of
- (A) balanoglossus (B) chaetgnatha  
(C) phoronida (D) rotifera
94. Highly repetitive DNA is found in
- (A) histones (B) DNA mini-satellites  
(C) nucleosomes (D) centromere
95. Bioluminescence in glow worms is on account of
- (A) interlukine (B) luciferin  
(C) interferons (D) glycine
96. In cyclostomes pineal eye is a
- (A) rheoreceptor (B) thermoreceptor  
(C) chemoreceptor (D) photoreceptor
97. Dipleurula larva is the larva of
- (A) echinoderms (B) mollusca  
(C) arthropoda (D) None of the above



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98. Scientific name of hook worm is
- (A) *Ascaris lumbricoides* (B) *Ancylostoma duodenale*  
(C) *Enterobius vermicularis* (D) *Dracanculus madenensis*
99. An example of wood boring mullusc is
- (A) *Teredo* (B) *Cellana*  
(C) *Turbo* (D) *Teretella*
100. What happens when you skip a meal?
- (A) Increase in glucagons levels and glycogen is converted to glucose  
(B) Increase in insulin level  
(C) Decrease in glucagon  
(D) Glucose is converted to glycogen
101. Haemocyanin contains
- (A) Copper (B) Nickel  
(C) Iron (D) Cobalt
102. In *Bombyx mori* silk gland secretes
- (A) chitin (B) servocin  
(C) pepsin (D) trypsin
103. Nerve cord of vertebrates is
- (A) solid ventral (B) dorsal tubular  
(C) ventral tubular (D) solid dorsal
104. In elephants proboscis is formed by
- (A) extension of fore head (B) fusion of B nostrils  
(C) fusion of nose and upper lip (D) elongation of upper lip
105. *Limulus* is commonly known as
- (A) king crab (B) blue crab  
(C) rock crab (D) green crab



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106. In electric ray, electric organs are modified
- (A) glands (B) muscles  
(C) tendons (D) tegument
107. Retrogressive metamorphosis occurs in
- (A) cephalochordata (B) hemichordata  
(C) urochordata (D) vertebrata
108. Notochord is restricted to tail region among
- (A) cephalochordates (B) hemichordates  
(C) urochordates (D) vertebrates
109. Ammocoetus larva is the larva of
- (A) amphioxus (B) petromyzon  
(C) deep sea fish (D) eel
110. Coelacanth is a
- (A) deep sea fish (B) planktonic fish larva  
(C) living fossil (D) None of the above
111. Marsupium in Kangaroo is supported by
- (A) pelvic bone (B) humerus  
(C) epipubic bone (D) femur
112. Caecum in rabbits is an organ of
- (A) vestige (B) digestion of protein  
(C) digestion of cellulose (D) digestion of fat
113. Cataract is a condition caused by
- (A) sty in the eye (B) infection of retina  
(C) cloudiness of the lens (D) nerve degeneration



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114. Polymerisation of glucose into glycogen is
- (A) glycogenolysis (B) TCA cycle  
(C) glycolysis (D) glycogenesis
115. Leptocephalus is the larva of
- (A) ophiocephalus (B) anguilla  
(C) saccobranthus (D) anabas
116. Axolotle is a neotonic form of
- (A) anura (B) urodela  
(C) apoda (D) None of the above
117. Effect of temperature on metabolic rate is explained by
- (A) Jordan's rule (B) Vant Hoff's rule  
(C) Allen's rule (D) Gloger's rule
118. The radiant energy trapped and converted to chemical energy by plants during photosynthesis is known as
- (A) gross primary production (B) net primary production  
(C) secondary production (D) tertiary production
119. In man, the occipital lobe of the brain is responsible for
- (A) coordination of hands (B) speech  
(C) vision (D) memory
120. Nitrification converts
- (A) ammonia to nitrate (B) nitrite to nitrate  
(C) nitrite to free nitrogen (D) nitrite to ammonia
121. The following reptile is a living fossil
- (A) sea snake (B) hawk bill turtle  
(C) sphenodon (D) crocodile





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122. *Archaeopteryx* is a
- (A) living fossil (B) living legend  
(C) extinct bird (D) extinct fish
123. Divergency may lead to
- (A) genetic drift (B) speciation  
(C) gene flow (D) genetic equilibrium
124. The enzyme that cuts DNA into fragments is
- (A) helicase (B) ligase  
(C) polymerase (D) restrictionendonuclease
125. Loop of Henle is found in
- (A) nephrotome (B) pronephric kidney  
(C) mesonephric kidney (D) metanephric kidney
126. Programmed cell death is also called
- (A) apolysis (B) apoptosis  
(C) lysis (D) cell degeneration
127. Flight muscle of birds is composed of
- (A) three types (B) two types  
(C) one type (D) four types
128. Among poultry birds, clipping of the upper beak is known as
- (A) culling (B) dubbing  
(C) pecking (D) debeaking
129. Use of techniques of applied mathematics, statistics, computer science, artificial intelligence, chemistry and biochemistry to solve biological problems usually at the molecular level is adopted in
- (A) bioinformatics (B) biometrics  
(C) applied biology (D) applied genetics



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130. Dipnoi is a classical example of
- (A) bipolar distribution (B) cosmopolitan distribution  
(C) discontinuous distribution (D) unipolar distribution
131. Air sacs are found in the lungs of
- (A) amphibia (B) reptiles  
(C) birds (D) mammals
132. Urine of birds consists of
- (A) uric acid (B) urea  
(C) salts (D) liquids
133. In *Ascaris lumbricoides*, infective stage to man is
- (A) rhabditiform larva (B) embryonated egg  
(C) hexacanth larva (D) egg
134. In man, the popularly known 'cerebral malaria' is caused by
- (A) *Plasmodium vivax* (B) *Plasmodium falciparum*  
(C) *Plasmodium malariae* (D) *Plasmodium berghei*
135. Sharks, penguins and porpoises together exhibit
- (A) morphological divergence (B) parallel evolution  
(C) morphological convergence (D) co-evolution
136. Second messengers are molecules of
- (A) insulin (B) cyclic AMP  
(C) ADP (D) prostaglandin
137. Goitre in man is due to the deficiency of
- (A) Iodine (B) Calcium  
(C) Iron (D) Sodium



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138. Zoogeographical realm that includes Asia south of Himalayas is
- (A) palaeartic realm (B) oriental realm  
(C) nearctic realm (D) neotropical realm
139. The state bird of Kerala is
- (A) Hopoe (B) Peacock  
(C) Hornbill (D) Duck
140. Nest building in birds can be referred to as
- (A) instinctive behaviour (B) innate behaviour  
(C) learned behaviour (D) motivated behaviour
141. Silent valley in Kerala is preserved because of
- (A) rare plants and animals (B) presence of tigers  
(C) recreational value (D) costly timber is available
142. The hormone that maintains sodium ( $\text{Na}^+$ ) and potassium ( $\text{K}^+$ ) ion balance in blood is
- (A) aldosterone (B) progesterone  
(C) insulin (D) thyroxine
143. The process by which a chromosome segment becomes attached to a nonhomologous chromosome is known as
- (A) deletion (B) translocation  
(C) segment transfer (D) inversion
144. Among fishes, migration from sea to freshwater for spawning is known as
- (A) anadromous (B) catadromus  
(C) potamodromus (D) None of the above
145. In an ecosystem, loss of energy during energy transfer is known as
- (A) eutrophication (B) biomagnification  
(C) entropy (D) biodegradation



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146. "Wheel animalcules" are
- |               |                |
|---------------|----------------|
| (A) bryozoans | (B) phoronids  |
| (C) rotifers  | (D) nemertines |
147. Nissl's granules are found in
- |                |                     |
|----------------|---------------------|
| (A) nerve cell | (B) lymphocyte      |
| (C) RBC        | (D) epithelial cell |
148. Platypus belongs to
- |                 |                |
|-----------------|----------------|
| (A) prototheria | (B) metatheria |
| (C) eutheria    | (D) apes       |
149. Biocoenosis is the term used to denote
- |                 |               |
|-----------------|---------------|
| (A) aestivation | (B) migration |
| (C) hibernation | (D) ecosystem |
150. Respiration in Cetacea is through
- |              |                |
|--------------|----------------|
| (A) gills    | (B) air-sacs   |
| (C) nostrils | (D) blow holes |

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