

General Characters of Mammals

DEGREE-I

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Mammals are highly evolved group of animals characterized by presence of hair and mammary gland, mammary gland being functional in females only. They are spread over land, water and air. Their chief characteristics features are:

1. Characteristic feature Hair-clad body, and presence of mammary gland
2. Mostly terrestrial, air-breathing, warm-blooded, viviparous, tetrapods
3. Limbs 2 pairs, pentadactyle
4. Non hind limbs in cetaceans and sirenians
5. Exoskeleton — epidermal hairs, scales, claws, spines, nails, horns, hoofs, etc.
6. Skin opulently glandular with sweat, sebaceous and scent glands
7. Females have milk producing mammary glands with teats
8. Diaphragm separates anterior thoracic cavity and posterior abdominal cavity
9. Ossified endoskeleton
10. Dicondylic skull, large Cranium
11. Pterygoids fused into 2 occipital condyles by exoccipitals
12. Zygomatic arch single small, scale-like.
13. Otic fused into periotic forming tympanic bulla
14. Each half of lower jaw consists of a single bone, dentary.
15. Vertebrae with terminal epiphyses and acoelous.
16. Cervical vertebrae usually 7
17. Bicephalous ribs
18. Coracoid vestigial
19. Alimentary canal ends in anus
20. No cloaca
21. Buccal cavity separated from nasal passage by hard palate
22. Hard palate is formed by premaxillae, maxillae and palatines.
23. Teeth heterodont, thecodont and diphyodont
24. Respiration pulmonary, Glottis protected by epiglottis
25. Larynx with vocal cords
26. Heart 4-chambered, double circulation
27. Only left aortic arch present
28. No renal portal system

29. R.B.C. small, circular and non-nucleated
30. Body temperature regulated — homoiothermous
31. Kidneys metanephric, ureotelic
32. Brain highly evolved
33. Cerebrum and cerebellum large and convoluted
34. Optic lobes small and 4 in number called corpora quadrigemina
35. Corpus callosum present and connects both cerebral hemispheres
36. 12 pairs cranial nerves
37. Senses well developed
38. Pinna in ear
39. Middle ear with 3 ear ossicles—malleus, incus and stapes
40. Cochlea spirally coiled
41. Sexual dimorphism well marked
42. Testes commonly placed in a scrotum outside abdomen
43. Except egg-laying monotremes, mammals are viviparous
44. Development uterine
45. Extra-embryonic membranes —amnion, chorion and allantois present
46. Parental care at climax in humans
47. Brainy among all animals