國立中興大學101學年度轉學考招生考試試題

科目：普通動物學 系所：獸醫學系二年級

請將各題答案依題號順序書寫於答案本內，每題2分。本科目試題共5頁

一. 填圖(中文)：下圖是以 SSU-rRNA 序列為基礎之動物種系發生。30%

第1頁背景有題，請繼續作答。
第二部分 配合式選擇題 (70 分)

說明：請從下列選單中選出最適合各題之定義或敘述的名詞。
1. 每一個名詞最多只能使用一次；使用二次以上者，該題不予計分。每答對一題得 1 分，答錯得 0 分。
2. 請將各題答案書寫於答案簿內，每一題佔一行，依題號順序書寫；未按此規定答題者扣總分 10 分。

01. A channel protein in the plasma membrane of an animal cell that specifically facilitates osmosis, the diffusion of free water across the membrane.

02. A chromosomal aberration in which one or more chromosomes are present in extra copies or are deficient in number.

03. A chromosome that is not directly involved in determining sex; not a sex chromosome.

04. A protein-RNA complex in the nucleus that is responsible for removing introns from eukaryotic pre-mRNA.

05. A condition in which drainage of aqueous humor in the eye becomes blocked and the pressure inside the eye increases.

06. A cup-shaped receptacle in the vertebrate kidney that is the initial, expanded segment of the nephron where filtrate enters from the blood.

07. A diffuse network of neurons in the core of the brainstem that filters information traveling to the cerebral cortex.

08. A disease in which the mineral and organic components of bones are reduced.

09. A display of the chromosome pairs of a cell arranged by size and shape.

10. A fibrin-containing clot that forms in a blood vessel and blocks the flow of blood.

11. A gene interaction in which the alleles of one gene mask the expression of the alleles of another gene.

12. A giant protein complex that recognizes and destroys proteins tagged for elimination by the small protein ubiquitin.

13. A glycoprotein in the extracellular matrix of animal cells that forms strong fibers, found extensively in connective tissue and bone; the most abundant protein in the animal kingdom.

14. Cells that surround the neurons; a major class of cells in nervous systems that perform various functions.

15. A group of species derived from a single common ancestor.

16. A hollow ball of cells that marks the end of the cleavage stage during early embryonic development in animals.

17. A hormone made by the liver and kidneys in response to any situation where additional red blood cells are required.

18. A hormone produced by adipose cells that acts as a satiety factor in regulating appetite.

19. A horseshoe-shaped crown of tentacles used for feeding in several invertebrate species.

20. A human genetic disease caused by a sex-linked recessive allele resulting in the absence of one or more blood-clotting proteins; characterized by excessive bleeding following injury.

21. A mammal, such as a koala, kangaroo, or opossum, whose young complete their embryonic development inside a maternal pouch.

22. A member of a major arthropod group, the chelicerates; include spiders, scorpions, ticks, and mites.

23. A neurotransmitter, synthesized from the amino acid tryptophan, that functions in the central nervous system.


25. A ringlike band of muscle fibers that controls the size of an opening in the body, such as the passage between the esophagus and the stomach.

26. A second messenger that functions as an intermediate between certain signaling molecules and a subsequent second messenger, Ca²⁺, by causing a rise in cytosolic Ca²⁺ concentration.

27. A sequence within a primary transcript that remains in the RNA after RNA processing; also refers to the region of DNA from which this sequence was transcribed.

28. A small, accessible region of an antigen to which an antigen receptor or antibody binds.

29. A specific nucleotide sequence in the DNA of a gene that binds RNA polymerase, positioning it to start transcribing RNA at the appropriate place.
30. A specific version of a gene that occupies a particular location in the genome. It is distinguished from other versions of the same gene by differences in nucleotide sequence.

31. A steroid hormone that stimulates the development and maintenance of the female reproductive system and secondary sex characteristics.

32. A structure of proteins attached to the centromere that links each sister chromatid to the mitotic spindle.

33. A substance released by mast cells that causes blood vessels to dilate and become more permeable in inflammatory and allergic responses.

34. A substance, such as Bicoid protein in Drosophila, that provides positional information in the form of a concentration gradient along an embryonic axis.

35. A symbiotic relationship in which one organism benefits but the other is neither helped nor harmed.

36. A technique used to silence the expression of selected genes.

37. A type of glial cell that forms insulating myelin sheaths around the axons of neurons in the central nervous system.

38. A type of motor protein that associates into filaments that interact with actin filaments to cause cell contraction.

39. A type of white blood cell with low phagocytic activity that is thought to play a role in defense against parasitic worms by releasing enzymes toxic to these invaders.

40. A vesicle in the tip of a sperm containing hydrolytic enzymes and other proteins that help the sperm reach the egg.

41. An enzyme that is activated during apoptosis.

42. An enzyme that removes phosphate groups from proteins.

43. An enzyme that untwists the double helix of DNA at replication forks, separating the two strands and making them available as template strands.

44. An individual that functions as both male and female in sexual reproduction by producing both sperm and eggs.

45. An infectious agent that is a misfolded version of a normal cellular protein.

46. An organism that has or at some point in its life has a notochord and a hollow dorsal nerve cord; includes all vertebrates and some invertebrates.

47. An organism that obtains organic food molecules by eating other organisms or substances derived from them.

48. Any of a class of neurotransmitters and hormones, including the hormones epinephrine and norepinephrine, that are synthesized from the amino acid tyrosine.

49. Any of several hormones produced in the brain and anterior pituitary that inhibit pain perception.

50. One of two types of nitrogenous bases found in nucleotides, characterized by a six-membered ring.

51. The cellular secretion of biological molecules by the fusion of vesicles containing them with the plasma membrane.

52. The evolutionary history of a species or group of related species.

53. The first section of the small intestine, where chyme from the stomach mixes with digestive juices from the pancreas, liver, and gallbladder as well as from gland cells of the intestinal wall.

54. The funnel-shaped chamber that receives processed filtrate from the vertebrate kidney's collecting ducts and is drained by the ureter.

55. The inner lining of the uterus, which is richly supplied with blood vessels.

56. An enzyme containing RNA as its catalytic entity; can be either an RNA molecule or a ribonucleoprotein.
57. The maximal, sustained contraction of a skeletal muscle, caused by a very high frequency of action potentials elicited by continual stimulation.

58. The middle primary germ layer in a triploblastic animal embryo; develops into the notochord, the lining of the coelom, muscles, skeleton, gonads, kidneys, and most of the circulatory system in species that have these structures.

59. The observable physical and physiological traits of an organism, which are determined by its genetic makeup.

60. The pairing and physical connection of duplicated homologous chromosomes during prophase I of meiosis.

61. The place on the retina at the eye's center of focus, where cones are highly concentrated.

62. The scientific study of how animals behave, particularly in their natural environments.

63. A group of cells, organisms, or DNA sequences that are genetically identical because they are all derived from a single ancestor.

64. The spread of cancer cells to locations distant from their original site.

65. The steady-state physiological condition of the body.

66. The protective structure at each end of a eukaryotic chromosome. Specifically, the tandemly repetitive DNA at the end of the chromosome's DNA molecule.

67. The thick band of nerve fibers that connects the right and left cerebral hemispheres in mammals, enabling the hemispheres to process information together.

68. The sum of all the metabolic processes by which complex molecules are broken down to simpler ones.

69. The X-shaped, microscopically visible region where crossing over has occurred earlier in prophase I between homologous nonsister chromatids.

70. Within a given species, a lineage that has genetic differences compared to another lineage.