



இலங்கையின் உயர்தர கணித விஞ்ஞான  
பிரிவின்கான இணையதளம்

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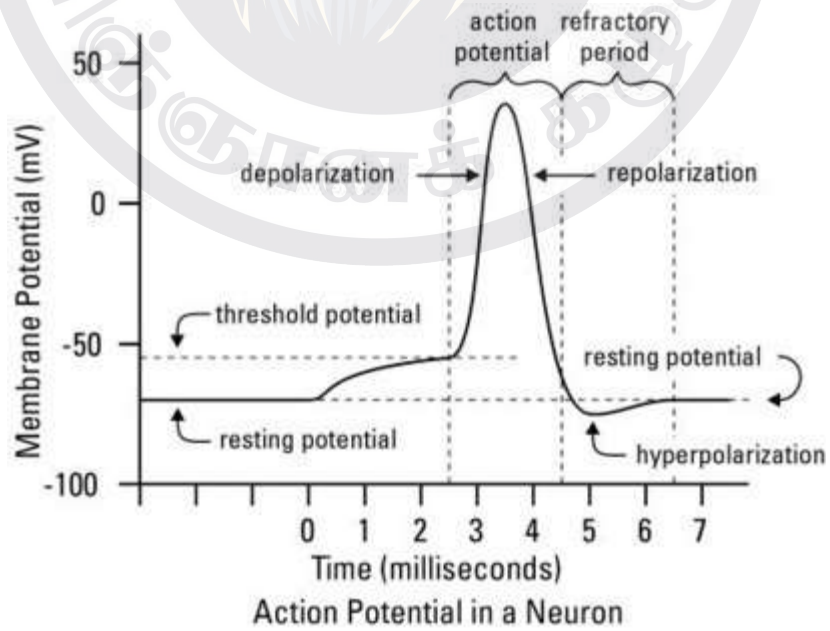
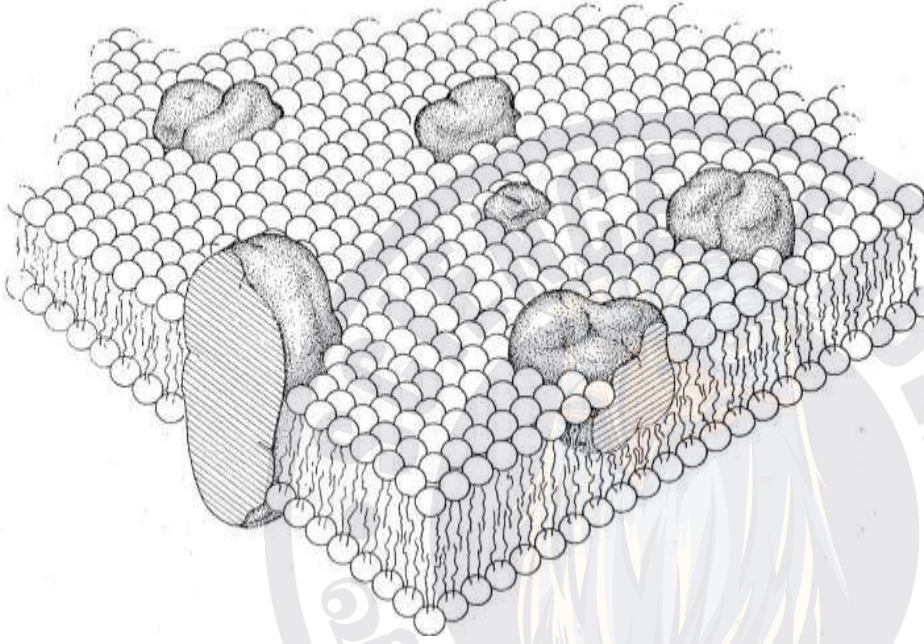


தொண்டைமானாறு வெளிக்கள நிலையம் நடாத்தும்  
தவகைணப் பரீட்சை, யூன் - 2017

தரம் - 13 (2017)

உயிரியல்

புள்ளியிடும் திட்டம்





# Field Work Centre

In collaboration with

Northern Provincial Department of Education

## Final Term Examination, June- 2017

Grade: - 13 (2017)

Biology

Marking scheme

### MCQ

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

50X2= 100 Marks

### Part II A. Structured essay

- 1.A i). a. Protein, phospholipid b. Chitin, protein,  $\text{CaCO}_3$ / wax. c. Peptidoglycan 6 X  
 ii). Organic molecule which are loosely associated with enzymes 1 X  
 iii). co enzymes are loosely and prosthetic groups are tightly 1 X  
 iv). hydrogen acceptors electron/ oxygen acceptors 2 X  
 v). a. Simple ciliated columnar epithelium b. Pseudo stratified ciliated columnar epithelium  
 c. Simple squamous epithelium 3 X
- B. i). 1. Compound eye, green gland, two pairs of antenna, internal fertilization  
 2. Nephridia, internal fertilization 3. Compound eye, one pair of antenna 4. Nephridia  
 5. Internal fertilization 10 X  
 (- marks for incorrect additional answers)  
 ii). Coelenterata, echinodermata 2 X iii). Amphibia 1 X  
 iv). Lipids in membrane are branched, lives in extreme conditions 2 X
- C. i). organic compounds /that needed in small amounts/ for normal metabolism and health 3 X  
 ii). Thiamine, riboflavin, niacin, pantothenic acid, pyridoxine, cobalamine any 4X  
 iii). a. increase the peristalsis b. increase the secretion of enzyme X2  
 iv). enterogastrone X1 v). Parasympathetic increases sympathetic decreases. X1  
 vi). Symbiosis X1 40X2.5 = 100-
2. A. i). Polychaeta, oligochaeta, hirudinia, cephalopoda, chondrichthyes, osteichthyes any 4X



ii). prevent atria-ventricular valves opening upwards into atria. 1 X

iii). right subclavian vein, superior vena cava, pulmonary artery, pulmonary vein, systemic artery, abdominal aorta, renal artery. 7 X

iv). Systolic pressure is the pressure exerted by blood on the arteries during the contraction of left ventricle of the heart. X1

Diastolic pressure is the pressure exerted by blood on the arteries during the relaxation of ventricle of heart. X1

v). Dengue, Addison's disease 2 X

B. i). Coordination, homeostasis, integration 3 X ii). neuroglia 1 X

iii). a. Cerebrum b. Medulla oblongata c. hypothalamus 3 X

iv). A chemical messenger / secreted by an endocrine gland / into blood / act on target tissue / organ brings about a physical / structural change. 5 X

v). FSH- induces- the follicular development / spermatogenesis

GH- promotes tissue growth / regulates metabolism

Prolactin- Induces the milk production 3 X

C. i). 1. Bowman's capsule 2. Glomerulus 3. efferent arteriole 4. Collecting duct 4 X

ii).  $\text{HCO}_3^-$  /  $\text{Cl}^-$  /  $\text{K}^+$  / urea any 3X iii). cuboidal epithelium squamous epithelium 2X

iv). b / distal convoluted tubule 1X Any 40X2.5=100

3. A i). 1. Anterior 2. Posterior 3. Sphenoid 4. Mastoid 4X

ii). prevent breakage of cranial bones during parturition, allows slight compression of skull at birth 2X

iii). cervical curvatures 3rd month lumbar 7-8 month 2+2x

iv). Radial 1X v). Decrease of bone tissue 1X

B. i). Glandular ruptured Graafian follicular cells / which contain a cavity in the centrum 2X

ii). hCG, progesterone 2X iii). Progesterone, oestrogen 2X

iv). Allantois, chorion, endometrium of uterine wall 3X

v). Placenta 1X vi). stimulates growth and development of breasts in preparation for lactation 1X

vii). Prostaglandins 1X viii). PIH/PIF, progesterone 2X

C. i). Pterophyta 1 X ii). A. Spore mother cell B. Protonema C. Archegonia D. Spermatozoid E. Embryo 5X

iii). A / Spore mother cell 1X iv). Egg, Embryo/E, D/ Spermatozoid 3

v). Sporophyte, B 2X vi). advantage- developed vessel, sporangia covered with outer cover, dominant rhizome. dis. ad. need external water for fertilization 3X Any 40X2.5= 100

4. A. i). Transcription- copying of genetic information of DNA/ gene into base sequence of mRNA 2X  
Translation- conversion of genetic information contained in mRNA into/ amino acid chain or poly peptide chain 2X
- ii). CGTGCTTTCAAAA 1X      iii). Albinism, Cystic fibrosis, Sickle cell anemia, and Thalassemia any 2X
- iv). Mutations are the major source of genetic variations / some mutations are beneficial some harmful/  
beneficial mutations are successfully transmitted to next generation harmful removed/ these allow natural selection/ which leads to evolution 5X
- B. i). Montane forest, wet pathana 2X      ii). a. Relict sp. b. indigenous sp. c. Keystone sp. 3X
- iii). An inventory of global conservation status/vulnerability of threat or status of plants and animals. 1X
- iv). above- vulnerability low- least concern 2X
- v). source of matters/energy, found Naturally, which are of use in everyday life and for economic development 3X      v). Bio diversity conservation 1X
- C. i). Micro organisms inhabiting in various parts of the body of a normal healthy person 1X
- ii). induces antibody production raising the immune status of host against pathogens, Synthesis of vit. K/several B groups, suppress establishment /entry of pathogens 3X
- iii). Artificially acquired active immunity 1X
- iv). Disinfectant Phenol / Lysol/ Cl –compounds Antiseptics ethyl alcohol Immunization Vaccines 3X (both should be written).
- v). Reduce BOD and induces the oxidation of organic matters by aerobic microbes 1X
- vi). a. Oven, 160° C, 1-2 hours 3X      b. Auto clave/pressure cooker, 121° C, 15 lb/sq. inch pressure, 15 minutes 4X  
40X2.5= 100

**B. Essay.**

5. a. C<sub>4</sub> path + Calvin cycle 41 points  
b. C<sub>4</sub> efficiency 9 points 50X3=150
6. Refer 2012 old 50 points
7. a. pollination double fertilization and post development of seed **30** points  
b. micro propagation ref. guide 9 points
8. a. global warming definition 1 point  
b. causes and effects 34 points  
c. Global measures Kyoto 7 points
9. Refer 2011 old 50 points
10. Short notes- a. 19+14+19 =52 any 50 X3=150.



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