

ශ්‍රී ලංකා විවෘත විශ්වවිද්‍යාලය

ස්වභාවික විද්‍යා පීඨය

විද්‍යා පදනම් සහතික පත්‍ර පාඨමාලාව - දෙවන මට්ටම 2015/2016

BZF2208 - ජීව විද්‍යාව - II

අවසාන පරීක්ෂණය

කාලය : පැය තුනයි(03)



දිනය : 2016 නොවැම්බර් 05 වන දින

වේලාව : ප.ව: 01.30 - ප.ව. 04.30

විභාග අංකය : -----

මෙම ප්‍රශ්න පත්‍රය I සහ II ලෙස කොටස් දෙකකින් සමන්විතය.

I කොටසෙහි සියලුම ප්‍රශ්නවලට ද II කොටසේ ඕනෑම ප්‍රශ්න තුනකට (03) පිළිතුරු සපයන්න.

- I-A කොටසෙහි බහුවරණ ප්‍රශ්න සඳහා පිළිතුරු දී ඇති කොටුවෙහි 'X' යෙදීමෙන් සඳහන් කරන්න
- I-B කොටසෙහි ව්‍යුහගත රචනා ප්‍රශ්නයට පිළිතුරු දී ඇති ඉඩෙහිම ලියන්න.
- විභාගය අවසානයේ ඔබගේ පිළිතුරු පත්‍රය සමඟ I වන කොටසේ සියළුම බහුවරණ ප්‍රශ්න ආපසු ඔාර දෙන්න.

## I වන කොටස

01. 01.A

1.1 ආත්‍රපෝඛාවන් ගේ සාමාන්‍ය දේහ කුහරය

- (a) රුධිර හෙබ ලෙසින් හැඳින්වේ.
- (b) ව්‍යාජ සිලෝමයක් ලෙසින් හැඳින්වේ.
- (c) සිලෝමය ලෙසින් හැඳින්වේ.
- (d) පුරාන්ත්‍රිකය ලෙසින් හැඳින්වේ.

1.2 පින් යුෂ ප්‍රාචයවීම සඳහා පහත සඳහන් කවර හෝමෝනය මගින් පින්තායය උත්තේජනය කරනු ලබයි ද?

- (a) සික්‍රටින්
- (b) එන්ටෙරොකයිනේස්
- (c) කොලිසිස්ටොකයිනින්
- (d) සෙරොටොනින්

1.3 පහත සඳහන් කවර සත්වයෙක් වලතාපි නොවන්නේ ද?

- (a) මැඩියා
- (b) කටුස්සා
- (c) පසමියා
- (d) නයා

1.4 ඇමෝනියා ප්‍රධාන බහික්‍රාවී වලය වන්නේ

- (a) ගැස්ට්‍රොපෝඛාවන් ගේ ය.
- (b) උභය ජීවින්ගේ ය.
- (c) කැස්බැවන් ගේ ය.
- (d) උභය ජීවී කිට අවස්ථාවේ දී ය.

1.5 අක්‍රිය පටල විභව කාලය තුළදී පහත කවර අයන සාන්ද්‍රණයක් බලාපොරොත්තු විය හැකි ද?

- (a) බහිස්සෙලිය තරලයේ පොටෑසියම් අයන බොහෝ සෙයින් ඇත.
- (b) අන්තස්සෙලිය තරලයේ ක්ලෝරයිඩ් අයන බොහෝ සෙයින් ඇත.
- (c) බහිස් සෙලිය තරලයේ ප්‍රෝටීන බොහෝ සෙයින් ඇත.
- (d) බහිස්සෙලිය තරලයේ සෝඩියම් අයන බොහෝ සෙයින් ඇත.

1.6 පහත සඳහන් කවර එන්සයිමයක් සමහර කාබෝහයිඩ්‍රේට් මත ක්‍රියා කරයි ද?

- (a) ට්‍රිප්සින්
- (b) කයිමොට්‍රිප්සින්
- (c) බේඩියෙහි ඇති ඇමයිලේස්
- (d) පෙප්සින්

1.7 වෘක්කානුවල ක්‍රියාකරන ADH මගින්

- (a) ජල අවශෝෂණය වැලැක්වේ.
- (b) පෙරීම පහසු වේ.
- (c) කාන්දු පෙරීම සිදු වේ.
- (d) ජලය අවශෝෂනය වේ.

- 1.8 දේහ උෂ්ණත්වය යාමනය සිදු වන්නේ
- හයිපොතලමස මගිනි.
  - මජ්ජා මගිනි.
  - වැරෝලි සේතුව මගිනි.
  - මස්තිෂ්කය මගිනි.
- 1.9 තෘණභූමි පරිසර පද්ධතියක ඇති ආහාර දාමයක ඉහල පාරිභෝජකයින් වන්නේ
- ශාක භක්ෂකයින් වේ.
  - මාංශ භක්ෂකයින් වේ.
  - ශාක භක්ෂක හෝ මාංශභක්ෂක වේ.
  - බැක්ටීරියා වේ.
- 1.10 පහත සඳහන් කවර වනාන්තරයක දිගු උණුසුම් කාලයක් සහ කෙටි ශීත කාලයක් පෙන්වනු ලබයි ද?
- නිවර්තන වර්ෂා වනාන්තර
  - නිවර්තන පහනශීල වනාන්තර
  - නිවර්තන සදාහරිත වනාන්තර
  - සමකය ආශ්‍රිත වර්ෂා වනාන්තර
- 1.11 බියෝම යනු
- ජලජ ශාක ප්‍රජාවකි.
  - ප්‍රධාන වශයෙන් පරිසරාත්මකව වර්ග කල ශාක කොටසකි.
  - විශාල පරිසර පද්ධතියකි.
  - ප්‍රධාන පරිසරාත්මක කාණ්ඩයකි.
- 1.12 නයිට්‍රිජන් තිර කිරීමේ බැක්ටීරියාවක් වන්නේ පහත සඳහන් කවරක් ද?
- Nitrosomonas*
  - Nitrobacter*
  - Azotobacter*
  - Ferrobacillus*
- 1.13 අම්ල වැසි ඇතිවන්නේ වායුගෝලය
- SO<sub>2</sub> වලින් දූෂණය වූ විටදී ය.
  - NO<sub>2</sub> වලින් දූෂණය වූ විටදී ය.
  - CO වලින් දූෂණය වූ විටදී ය.
  - CO<sub>2</sub> වලින් දූෂණය වූ විටදී ය.
- 1.14 පහත සඳහන් කවර වගන්තිය සත්ව සැකිලි සම්බන්ධයෙන් අසත්‍ය වේ ද?
- සංවරනයට සැකිලි සහය වේ.
  - ගැබවිලුන්ට ළවස්ථික සැකිල්ලක් ඇත.
  - බහිස් සැකිල්ල සත්වයින්ගේ වර්ධනය සීමා කරයි.
  - අන්තය් සැකිල්ල පෘෂ්ඨවංශීන්ට පමණක් සීමා වේ.

- 1.15 පහත සඳහන් කවරක් මිනිසාට අවම වශයෙන් හානිකර වේ ද?
- (a) *Plasmodium Vivax*  
 (b) *Entamoeba coli*  
 (c) *Wucheria Brancofti*  
 (d) *Clostridium tetani*
- 1.16 පහත සඳහන් කවරක් හෘත් පේශි තන්තුවකට සහ සිනිඳු පේශි තන්තුවකට පොදු වේ ද?
- (a) විලිඛිත වූ ව්‍යුහය  
 (b) තර්කු රූපි හැඩය  
 (c) විඛාලට පත් නොවීම  
 (d) අනිවිභානුග පාලනය
- 1.17 ශ්‍රී ලංකාවේ ජෛව විවිධත්ව භායනය සඳහා වඩාත් වැදගත් හේතුව වන්නේ
- (a) පෘථිවියේ උණුසුම් වීමයි.  
 (b) වාසස්ථාන විනාශ වීමයි.  
 (c) ඕසෝන් ස්ථරය විනාශ වීමයි.  
 (d) ආහාරය සඳහා දේශීය ශාකවල මිනිස් පාරිභෝජනය වැඩි වීමයි.
- 1.18 මිනිස් පිටියුටරිය මගින් සංස්ලේෂණය නොවන්නේ පහත කුමන හෝමෝනය ද?
- (a) ප්‍රොලැක්ටින්  
 (b) වර්ධක හෝමෝනය  
 (c) තයිරොයිඩ් උත්තේජක හෝමෝනය  
 (d) ඔක්සිටොසින්
- 1.19 නෙමටෝඩාවක් ඇනලිඩාවක් ගෙන් පහසුවෙන් වෙන්කල හැකි වන්නේ,
- (a) සිලිනිඛරාකාර දේහයෙනි.  
 (b) කණ්ඩනය නොවූ දේහයෙනි.  
 (c) උච්ච්චයක් පිහිටා තිබීමෙනි.  
 (d) උපාංග රහිත වීමෙනි.
- 1.20 මිනිස් කනෙහි,
- (a) ධරණකය අන්ඩාකාර ගවාක්ෂය සමඟ සම්බන්ධ වේ.  
 (b) අර්ධ වක්‍රාකාර නාල, දේහ ඉරියව් පවත්වා ගැනීම සඳහා වැදගත් වේ.  
 (c) ආලින්දයෙහි පිහිටි සෛල ගබ්ද කරාග සඳහා සංවේදී වේ.  
 (d) මැදකන පර්වසා තරලයෙන් පිරී ඇත.
- 1.21 පෘථිවියෙහි සිට වායුගෝලයේ ඉහලට අනුපිළිවෙලින් පිහිටි ස්ථර වනුයේ,
- (a) අපරිවර්තීගෝලය, මධ්‍යගෝලය, භාපගෝලය, අයනගෝලය, ඕසෝන් ස්ථරය  
 (b) පරිවර්තීගෝලය, මධ්‍ය ගෝලය, භාපගෝලය, ඕසෝන් ස්ථරය, අයනගෝලය  
 (c) අපරිවර්තීගෝලය, ඕසෝන් ස්ථරය, මධ්‍යගෝලය, පරිවර්තී ගෝලය, අයනගෝලය  
 (d) පරිවර්තීගෝලය, අපරිවර්තීගෝලය, මධ්‍යගෝලය, අයනගෝලය

1.22 සත්වයින්ගේ ඉගෙනුම් වර්ගවත් සඳහා උදාහරණයක් වනුයේ

- (a) ගතිචාරය වේ.
- (b) සාර්වසරණය වේ.
- (c) ධාරණය වේ.
- (d) ප්‍රතික ක්‍රියා වේ.

1.23 මිනිස් සැකිලි පද්ධතියේ 8 වැනි 9 වැනි සහ 10 වැනි පර්ශු හඳුන්වනු ලබන්නේ

- (a) මුක්තාග්‍ර පර්ශු නමිනි.
- (b) ව්‍යාජ පර්ශු නමිනි.
- (c) අනුජ-සාස්ථිය නමිනි.
- (d) ඉහත කිසිවක් නොවේ.

1.24 මිනිස් අග්නිනායක සම්බන්ධයෙන් අසත්‍ය ප්‍රකාශය තෝරන්න.

- (a) එය අන්තරාසර්ග මෙන් ම බහිරාසර්ග ග්‍රන්ථියක් ලෙස ක්‍රියා කෙරේ.
- (b) අග්නිනායකීය යුෂයේ ප්‍රෝටියෝලිටික එන්සයිම දෙකක් අන්තරගත වේ.
- (c) ලැන්ගහැන් දීපිකා විනාය විමෙන් මධුමේහය ඇති වේ.
- (d) අග්නිනායකේ කෘත්‍යයන් යාමනය කිරීම සිඳුටින් මගින් සිදු වේ.

1.25 මිනිස් උරස් කශේරුකා

- (a) අස්ථි 14න් සමන්විත වේ.
- (b) අස්ථි 12න් සමන්විත වේ.
- (c) අස්ථි 15න් සමන්විත වේ.
- (d) අස්ථි 13න් සමන්විත වේ.

ව්‍යුහගත රචනා ප්‍රශ්න (1 කොටස- B)

1. B

1.

(i) පෝෂණය යනුවෙන් අදහස් කරන්නේ කුමක් ද?

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(ii) සත්ව සදාචාර පෝෂණ ක්‍රමයේ ප්‍රධාන අවස්ථා සඳහන් කරන්න.

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(iii) මිනිස් බේධයෙහි ඇති ටයලන්ටල කෘත්‍යය කුමක් ද?

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(iv) මිනිස් ආමානයික යුෂයේ ක්‍රියාකාරීත්වයන් 3 දෙන්න.

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(v) මිනිසාගේ කුඩා අන්ත්‍රයේ අවශෝෂණය වැඩි වී ඇත්තේ කෙසේ ද?

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(vi) මිනිස් අග්න්‍යාමයික යුෂයේ ඇති ප්‍රෝටියෝලිටික එන්සයිම තුන නම් කරන්න.

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(vii) ආන්ත්‍රික යුෂයේ ඇති ඇමයිනෝපෙප්ටිබේස්ටල කෘත්‍යය කුමක් ද?

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(viii) ආහාර මාර්ගයේ මේද පිරණය වන ස්ථාන 2 ක් නම් කරන්න.

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(ix) පිත් යුෂයේ පවතින එන්සයිම නොවන ද්‍රව්‍ය දෙකක් නම් කරන්න.

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2. i) ඛනික්‍රමය යනුවෙන් අදහස් වන්නේ කුමක් ද?

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ii. මලපහ කිරීම ඛනික්‍රමයෙන් වෙනස් වන්නේ කෙසේ ද?

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iii මිනිසා ගේ ප්‍රධාන ඛනික්‍රම වල දෙකක් සඳහන් කරන්න.

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iv. ඝන ද්‍රව්‍ය ලෙස ඛනික්‍රම වල නිපදවන සත්ව කණ්ඩායම් දෙකක් නම් කරන්න.

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v. ගැඹවිලන්ගේ ඛනික්‍රම අවයවය කුමක් ද?

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vi. සත්වයින් ගේ ඛනික්‍රම වලවල ස්වභාවය තීරණය කරන සාධක දෙකක් සඳහන් කරන්න.

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vii. මුහු තිෂ්පාදනය හැරුණු විට මිනිස් වෘක්කවල ප්‍රධාන කෘත්‍යයන් තුනක් දෙන්න.

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viii. මිනිස් වෘක්කානුවලින් ක්‍රමය කරන අයන තුනක් නම් කරන්න.

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ix. මිනිස් වෘක්කයේ පක්ෂ්ටා ගුවිපිකා සංකීර්ණයෙන් සිදුවන එක් කෘත්‍යයක් සඳහන් කරන්න.

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x. වෘක්කවල ගල් ඇතිවීමේ අවදානම අඩු කිරීම සඳහා නිතර ජලය පානය කල යුත්තේ ඇයි දැයි කෙටියෙන් විස්තර කරන්න.

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**B - කොටස****රචනා ප්‍රශ්න**

ප්‍රශ්න තුනකට (03) පිළිතුරු සපයන්න.

02. (i) “ජෛව විවිධත්වය” යනුවෙන් අදහස් කරන්නේ කුමක් ද?  
 (ii) ජෛව විවිධත්වය භාගනයට හේතුවන සාධක මොනවා ද?  
 (iii) ශ්‍රී ලංකාවේ ජෛව විවිධත්ව සංරක්ෂණයට යොදා ගන්නා ක්‍රම සාකච්ඡා කරන්න.
03. මිනිස් දේහයේ උෂ්ණත්ව යාමනය සිදුවන අයුරු විස්තර කරන්න.
04. (i) “ශ්වසනය” යනුවෙන් අදහස් වන්නේ කුමක් ද?  
 (ii) සත්වයින්ගේ කාර්යක්ෂම ශ්වසන පෘෂ්ඨයක තිබිය යුතු ප්‍රධාන ලක්ෂණ මොනවා ද?  
 (iii) අපෘෂ්ඨවංශීන් තුළ දක්නට ලැබෙන ශ්වසන පෘෂ්ඨ පිළිබඳ කෙටියෙන් විස්තර කරන්න.
05. (i) මොලස්කා වංශයට ආවේණික වූ ලක්ෂණ ලැයිස්තු ගත කරන්න.  
 (ii) මෙම වංශයට අයත් කාණ්ඩ නම් කර වම වක් වක් කාණ්ඩවලට අයත් ආවේණික ලක්ෂණ විස්තර කරන්න.
06. පහත මාතෘකා දෙකකට (02) කෙටි සටහන් ලියන්න.
- (a) භෞමික සංචරණය  
 (b) වායු දූෂණය  
 (c) අපෘෂ්ඨවංශී ස්නායු පද්ධති  
 (d) හෘත් පේශි

හිමිකම් ඇවිටිණි.





**The Open University of Sri Lanka**  
**Foundation Certificate in Science - 2015/2016**  
**Final Examination**  
**Biology II - BZF2208**  
**Duration - Three hours (3 hrs)**

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Date - 2016. 11. 05

Time - 1.30 Pm - 4.30 Pm

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Index Number -

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The Question paper consists of two parts - Part I and Part II

Answer all questions in **Part I** and any **three (03)** questions from **Part II**

- Answers for the Multiple Choice Questions in part **I-A** should be provided by placing **X** in the relevant cage indicating the most correct answer in the MCQ box provided.
  - Answers for the structured essay question in part **I-B** should be written in the space provided in the question paper.
  - At the end of the examination you should submit the Part I MCQ question paper and answer box along with your answer script.
-

## PART I

1.

1-A

- 1.1 General body cavity of an arthropod is called ,  
(a) haemocoel .  
(b) Pseudocoel .  
(c) Coelom .  
(d) Gastrocoel.
- 1.2 Which of the following hormone stimulates the gall bladder to release bile juice  
(a) Secretin  
(b) Enterokinase  
(c) Cholecystokinin  
(d) Serotonin
- 1.3 Which of the following is not a poikilothermic animal?  
(a) Toad  
(b) Lizard  
(c) Bird  
(d) Snake
- 1.4 Ammonia is the chief nitrogenous waste of product of  
(a) gastropods.  
(b) amphibians.  
(c) turtles.  
(d) amphibian larvae.
- 1.5 During the resting membrane potential which of the following ionic concentration can be expected .  
(a) Pottasium is more in the extracellular fluid.  
(b) Chloride is more in the intracellular fluid.  
(c) Proteins are more in the extracellular fluid.  
(d) Sodium is the more in extracellular fluid.
- 1.6 Which one of the following enzyme will react on certain carbohydrates ?  
(a) Trpsin  
(b) Chymotripsin  
(c) Salivary amylase  
(d) Pepsin.
- 1.7 ADH acts on the nephron to,  
(a) prevent absorption of water  
(b) facilitate filtration.  
(c) aid in the dialysis.  
(d) absorb water.

- 1.8 Body temperature is regulated by the
- (a) hypothalamus.
  - (b) medulla.
  - (c) pons.
  - (d) cerebellum.
- 1.9 In a food chain of grassland ecosystem, the top consumers are
- (a) herbivores.
  - (b) carnivores.
  - (c) either herbivores or carnivores.
  - (d) bacteria.
- 1.10 Which one of the forest type shows a long summer period and short winter period
- (a) Tropical rain forest.
  - (b) Tropical deciduous forest.
  - (c) Tropical evergreen forest.
  - (d) Equatorial rain forest.
- 1.11 Biomes are
- (a) Aquatic vegetation.
  - (b) Major ecological grouping plants.
  - (c) Large sized ecosystem.
  - (d) Major ecological grouping .
- 1.12 Which one of the following represents a Nitrogen fixing bacteria.
- (a) *Nitrozomanas*
  - (b) *Nitrobacter*
  - (c) *Azotobacter*.
  - (d) *Ferrobacillus*.
- 1.13 Acid rains occur when atmosphere is polluted with,
- (a) SO<sub>2</sub>
  - (b) NO<sub>2</sub>
  - (c) CO
  - (d) CO<sub>2</sub>
- 1.14 Which one of the following statements is **incorrect** regarding animal skeletons?
- (a) Skeletons assist in locomotion.
  - (b) Annelids have a hydrostatic skeleton
  - (c) Exoskeleton limits the growth of animals
  - (d) Endoskeletons are confined to vertebrates.

- 1.15 Which one of following organisms is **least** harmful to human?
- (a) *Plasmodium vivax*
  - (b) *Entamoeba coli*.
  - (c) *Wucheria bancrofti*
  - (d) *Clostridium tetani*
- 1.16 Which one of the following is common to both cardiac muscle fibre and smooth muscle fibre ?
- (a) Striated structure
  - (b) Spindle shape
  - (c) Never fatigue
  - (d) Involuntary control
- 1.17 The most significant cause of loss of biodiversity in Sri Lanka due to,
- (a) Global warming.
  - (b) Destruction of habitats.
  - (c) Destruction of the ozone layer.
  - (d) Human consumption of native plants for food.
- 1.18 Which of the following hormone is not synthesized by the pituitary gland of human?
- (a) Prolactin
  - (b) Growth hormone
  - (c) Thyroid stimulating hormone
  - (d) Oxytocin
- 1.19 A nematode can be easily distinguished from an annelids due to,
- (a) cylindrical shape.
  - (b) unsegmented body.
  - (c) presence of cuticle.
  - (d) absence of appendages.
- 1.20 In the human ear,
- (a) the stapes is in contact with the round window.
  - (b) semicircular canals are important for the maintain of body posture.
  - (c) the cells sensitive to sound waves are located in the vestibule.
  - (d) the middle year is filled with perilymph.

- 1.21 Select the correct order of the layers of the atmosphere from the surface of earth to upwards
- (a) Stratosphere, mesosphere, thermosphere, ionosphere, ozone layer.
  - (b) Troposphere, mesosphere, thermosphere, ozone layer, ionosphere.
  - (c) Stratosphere, ozone layer, mesosphere, troposphere, ionosphere.
  - (d) Troposphere, stratosphere, mesosphere, ionosphere.
- 1.22 An example for learning behavior of an animal is,
- (a) kinesis.
  - (b) taxis.
  - (c) imprinting.
  - (d) reflex.
- 1.23 In human skeleton 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup>, ribs are called,
- (a) Floating ribs.
  - (b) False ribs.
  - (c) Fibula.
  - (d) None of the above.
- 1.24 Select **incorrect** statement regarding human pancreas,
- (a) It function both as an exocrine and as endocrine gland
  - (b) Pancreatic juice contains two proteolytic enzymes
  - (c) Damage to langerhan islets may lead to diabetes mellitus
  - (d) Secretin regulates functioning of the pancreas
- 1.25 Human thoracic vertebrae consists of
- (a) 14 bones.
  - (b) 12 bones.
  - (c) 15 bones.
  - (d) 13 bones.

**Structured essay questions (Part I- B)****1-B****I.**

i. What is meant by nutrition

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ii. State the main processes of holozoic mode of nutrition.

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iii. What is the function of ptyalin present in human saliva.

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iv. Give three functions of the human gastric juice

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v. How absorption is increased in the small intestine of man.

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vi. Name three proteolytic enzymes in human pancreatic juice.

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vii. What are the function of amino peptidases in intestinal juice?

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viii. Name the two parts of the alimentary canal where fat is digested

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ix. Give two non enzymatic substances found in bile.

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2.

i. What is meant by excretion?

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ii. How does defaecation differ from excretion.

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iii. State the two main excretory products of man.

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iv. Name two animal groups that excrete solid nitrogenous waste as products.

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v. What are the excretory organs of earth worm?

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vi. State two main factors which determine the nature of excretory products of an animal.

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vii. Give three functions of the human kidney other than urine production.

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viii. Name three ions secreted by the human nephron.

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ix. State one main function of the juxta glomerular complex of the human kidney.

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x. Explain briefly why it is necessary to drink water frequently to reduce the risk of developing stones in the kidney.

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**PART B****Essay questions**

Answer any **three (03)** questions

2. (i) What is meant by “biodiversity”?  
(ii) What are the factors affect to the loss of biodiversity?  
(iii) Discuss the methods that is used to conserve biodiversity in Sri Lanka.
  
3. Explain how temperature is regulated in human body.
  
4. (i) What is meant by “respiration”?  
(ii) What are the main features that should be present in an efficient respiratory surface of an animal?  
(iii) Briefly describe the respiratory structures found in invertebrates.
  
5. (i) List the characteristic features of phylum Mollusca.  
(ii). Name the classes belong to this phylum and explain characteristic features of these classes.
  
6. Write short notes any **two (02)** of the following
  - (a). Locomotion on land
  - (b). Air pollution
  - (c). Nervous systems in invertebrates.
  - (d) Cardiac muscle.



**The Open University of Sri Lanka**  
**Foundation Certificate in Science - 2015/2016**  
**Final Examination**  
**Biology II - BZF 2208**  
**Duration - Three hours**

திகதி -2016.11.05

நேரம் - 1.30 pm - 4.30 pm

சுட்டெண் -

இவ்வினாத்தாள் பகுதி I, II என இரு பகுதிகளைக் கொண்டுள்ளது.

பகுதி I இல் அனைத்து வினாக்களுக்கும் விடையளிக்க. பகுதி II இல் ஏதாவது மூன்று (03) வினாக்களுக்கு விடையளிக்க.

- பகுதி I –A பஸ்தேர்வு வினாக்களுக்கான மிகத்திருத்தமான விடையானது தரப்பட்டுள்ள MCQ பெட்டியினுள் X என குறியிடுவதன் மூலம் தரப்படவேண்டும்.
- பகுதி I-B இலுள்ள அமைப்புக் கட்டுரை வினாக்களுக்கான விடைகள் வினாத்தாளில் வழங்கப்பட்டுள்ள இடைவெளிகளில் மாத்திரமே வழங்கப்படவேண்டும்.
  - பரீட்சை முடிவில் அனைத்து MCQ வினாக்களையும் உமது விடைத்தாளுடன் ஒப்படைக்க.

## PART I

1.

1-A

1.1 General body cavity of an arthropod is called ,

பொதுவான ஒரு ஆத்திரப்போடாவின் உடற்குழி அழைக்கப்படுவது,

- (a) haemocoel .  
குருதிக்குழி
- (b) Pseudocoel .  
போலிக்குழி
- (c) Coelom .  
உடற்குழி
- (d) Gastrocoel.  
உதரக்கலன்குழி

1.2 Which of the following hormone stimulates the gall bladder to release bile juice

பின்வருவனவற்றுள் எந்த ஓமோன் பித்தச்சாறை வெளியேற்றுவதற்காக பித்தப்பையை தூண்டும்.

- (a) Secretin  
செக்ரரின்
- (b) Enterokinase  
என்ரிநோகைனேசு
- (c) Cholecystokinin  
கோலிசைரோகைனின்
- (d) Serotonin  
சேரெட்டோனின்

1.3 Which of the following is not a poikilothermic animal?

பின்வருவனவற்றுள் எது மாறுவெப்பநிலையற்ற விலங்கு.

- (a) Toad  
தேரை
- (b) Lizard  
பல்லி
- (c) Bird  
பறவை
- (d) Snake  
பாம்பு

1.4 Ammonia is the chief nitrogenous waste of product of

அமோனியா பிரதான நைதரசன் கழிவாகக் காணப்படும் விலங்கு,

- (a) gastropods.  
கஸ்ரபோடுகள்
- (b) amphibians.  
அம்பிபியாக்கள்
- (c) turtles.  
கடலாமைகள்
- (d) amphibian larvae.  
அம்பிபியா குடம்பி

1.5 During the resting membrane potential which of the following ionic concentration can be expected?

ஓய்வு மென்சவ்வு அழுத்தத்தில் பின்வருவனவற்றில் எந்த அயன்செறிவை எதிர்பார்க்க முடியும்.

- (a) Potassium is more in the extracellular.  
வெளிக்கலத்தில் பொட்டாசியம் அதிகம்
- (b) Chloride is more in the intracellular fluid.  
அகக்கலப்பதார்த்தத்தில் குளோரைட் அதிகம்
- (c) Proteins are more in the extracellular fluid.  
வெளிக்கலப்பதார்த்தத்தில் புரதம் அதிகம்
- (d) Sodium is the more in extracellular fluid.  
வெளிக்கலப்பதார்த்தத்தில் சோடியம் அதிகம்

1.6 Which one of the following enzyme will react on certain carbohydrates?

பின்வருவனவற்றில் எந்த நொதியம் குறித்த காபோவைதரேற்றுக்களுடன் தாக்கும்

- (a) Trpsin  
திரிப்சின்
- (b) Chymotripsin  
கைமோதிரிப்சின்
- (c) Salivary amylase  
உமிழ்நீர் அமைலேசு
- (d) Pepsin.  
பெப்சின்

1.7 ADH acts on the nephron to,

ADH \_\_\_\_\_ இற்காக சிறுநிரகத்தியில் செயற்படும்

- (a) prevent absorption of water  
நீர் அகத்துறிஞ்சலை தடுக்க
- (b) facilitate filtration.  
வுடிகட்டலை நிகழ்த்த
- (c) aid in the dialysis.  
கூழ்மப்பிரிப்பில் உதவ
- (d) absorb water.  
நீர் அகத்துறிஞ்ச

1.8 Body temperature is regulated by the

உடல் வெப்பநிலை சீராக்கப்படுவது

- (a) hypothalamus.  
பரியகக்கீழினால்
- (b) medulla.  
மையவிழையம்
- (c) pons.  
வரோலியின் பாலம்
- (d) cerebellum.  
மூளி

1.9 In a food chain of grassland ecosystem, the top consumers are

ஒரு புல்நில சூழற்சொகுதியின் உயர்நிலை நுகர்வோர்

- (a) Herbivores.  
தாவரஉண்ணிகள்
- (b) Carnivores.  
ஊனுண்ணிகள்
- (c) either herbivores or carnivores.  
தாவரஉண்ணிகள் அல்லது ஊனுண்ணிகள்
- (d) Bacteria.  
பக்ரீரியா

1.10 Which one of the forest type shows a long summer period and short winter period

பின்வருவனவற்றில் எக்காட்டுவகை நீண்ட கோடை காலத்தையும் குறுகிய மாரி காலத்தையும் கொண்டது

- (a) Tropical rain forest.  
அயனமண்டல மழைக்காடுகள்
- (b) Tropical deciduous forest.  
அயனமண்டல இலையுதிர்காடுகள்
- (c) Tropical evergreen forest.  
அயனமண்டல என்றும் பசுமையானகாடுகள்
- (d) Equatorial rain forest.  
மத்திய கோட்டுக்குரிய மழைக்காடுகள்

1.11 Biomes are

உயிரினக்கூட்டங்களாவன

- (a) Aquatic vegetation.  
நீரியல் தாவரங்கள்
- (b) Major ecological grouping plants.  
பிரதான சூழலியல் குழுவாக்கத் தாவரங்கள்
- (c) Large sized ecosystem.  
பெரியளவான சூழற்சொகுதிகள்
- (d) Major ecological grouping.  
பிரதான சூழலியல் குழுவாக்கம்

1.12 Which one of the following represents a Nitrogen fixing bacteria?

பின்வருவனவற்றில் எது நைதரசன் பதிக்கும் பக்ரீரியாவை பிரதிநிதித்துவப்படுத்தும்?

- (a) Nitrozomanas
- (b) Nitrobacter
- (c) Azotobacter.
- (d) Ferrobacillus.

1.13 Acid rains occur when atmosphere is polluted with,

இதனால் வளிமண்டலம் மாசு படுத்தப்படுவதனால் அமில மழை உருவாகும்,

- (a) SO<sub>2</sub>
- (b) NO<sub>2</sub>
- (c) CO
- (d) CO<sub>2</sub>

1.14 Which one of the following statements is **incorrect** regarding animal skeletons?

பின்வரும் கூற்றுக்களில் விலங்கு வன்கூடு பற்றித் தவறானது?

- (a) Skeletons assist in locomotion.  
வன்கூடு இடப்பெயர்ச்சிக்கு உதவும்
- (b) Annelids have a hydrostatic skeleton  
அனலிடாக்கள் ஒரு நீர்நிலையியல் வன்கூட்டைக் கொண்டிருக்கும்
- (c) Exoskeleton limits the growth of animals  
புறவன்கூடு விலங்குகளின் வளர்ச்சியை மட்டுப்படுத்தும்.
- (d) Endoskeletons are confined to vertebrates.  
அகவன்கூடுகள் முள்ளந்தண்டுளிகளுக்கு மட்டும் வரையறுக்கப்பட்டுள்ளது

1.15 Which one of following organisms is **least** harmful to human?

பின்வருவனவற்றில் எது மனிதனுக்கு குறைந்தளவு பாதிப்பை ஏற்படுத்தும்?

- (a) *Plasmodium vivax*
- (b) *Entamoeba coli*.
- (c) *Wucheria bancrofti*
- (d) *Clostridium tetani*

1.16 Which one of the following is common to both cardiac muscle fibre and smooth muscle fibre ?

பின்வருவனவற்றில் எது இதயத்தசைகளுக்கும் மழமழப்பான தசைகளுக்கும் பொதுவானது?

- (a) Striated structure  
வரி கொண்ட அமைப்பு
- (b) Spindle shape  
கதிருருவான அமைப்பு
- (c) Never fatigue  
ஒருபோதும் களைப்படைய மாட்டாது
- (d) Involuntary control  
இச்சையின்றிய கட்டுப்பாடு

1.17 The most significant cause of loss of biodiversity in Sri Lanka due to,

இலங்கையில் உயிரினப்பல்வகைமை இழக்கப்படுவதற்கான பிரதான காரணி

- (a) Global warming.  
கூமல் வெப்பமுறுதல்
- (b) Destruction of habitats.  
வாழிட அழிப்பு
- (c) Destruction of the ozone layer.  
ஓசோன் படை அழிப்பு
- (d) Human consumption of native plants for food.  
சுதேச தாவரங்களை உணவுக்காக மனிதர் உள்ளெடுத்தல்

1.18 Which of the following hormone is not synthesized by the pituitary gland of human?

பின்வரும் ஓமோன்களில் எது மனித கபச்சுரப்பியினால் தொகுக்கப்படுவதில்லை

- (a) Prolactin  
புரோலக்ரின்
- (b) Growth hormone  
வளர்ச்சி ஓமோன்
- (c) Thyroid stimulating hormone  
தைரோயிட் தூண்டி ஓமோன்
- (d) Oxytocin  
ஒக்சிரோசின்

1.19 A nematode can be easily distinguished from an annelids due to, ஒரு நெமரோடா இலகுவாக ஒரு அனலிடாவிலிருந்து வேறுபடுத்தப்படுவது

- (a) cylindrical shape.  
உருளை உருவால்
- (b) unsegmented body.  
துண்டுபடாத உடலால்
- (c) presence of cuticle.  
புறத்தோல் காணப்படுவதால்
- (d) absence of appendages.  
அவயவங்கள் காணப்படாததால்

1.20 In the human ear,

மனித காத்தில்

- (a) The stapes is in contact with the round window.  
ஏந்தியுருவானது வட்ட யன்னலுடன் தொடர்புடையதாகக் காணப்படும்.
- (b) Semicircular canals are important for the maintain of body posture.  
ஆரைவட்டக் கால்வாய்கள் உடற்சமநிலையை பேணுவதில் பிரதானமானவை
- (c) The cells sensitive to sound waves are located in the vestibule.  
ஒலியலைக்கு உணர்திறனுள்ள கலங்கள் தலைவாயிலில் காணப்படும்.
- (d) The middle ear is filled with perilymph.  
நடுக்காதானது சுற்றுநிணநீரினால் நிரப்பப்பட்டிருக்கும்.

1.21 Select the correct order of the layers of the atmosphere from the surface of earth to upwards

வளிமண்டலத்தின் படைகளை புவிமேற்பரப்பிலிருந்து மேல்நோக்கி ஒழுங்கு படுத்தினால், சரியான வரிசை

- (a) Stratosphere, mesosphere,thermosphere, ionosphere, ozone layer.
- (b) Troposphere, mesosphere,thermosphere,ozone layer, ionosphere.
- (c) Stratosphere, ozone layer, mesosphere, trophosphere, ionosphere.
- (d) Troposphere, stratosphere, mesosphere, ionosphere.

- 1.22 An example for learning behavior of an animal is,  
ஒரு விலங்கின் நடத்தையை கற்பதற்கான ஒரு உதாரணமாக அமைவது
- (a) kinesis.  
இயக்கம்
- (b) taxis.  
துலங்கல்
- (c) imprinting.  
பதியச் செய்யப்பட்ட
- (d) reflex.  
தெறிப்பு
- 1.23 In human skeleton 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup>, ribs are called,  
மனித வன்கூட்டில் 8ஆம் 9ஆம் 10ஆம் விலாவென்புகள் அழைக்கப்படுவது
- (a) Floating ribs.  
மிதக்கும் விலாவென்புகள்
- (b) False ribs.  
போலி விலாவென்புகள்
- (c) Fibula.  
கணைக்கால் வெளியென்பு
- (d) None of the above.  
மேல்வருவனவற்றில் எதுவுமல்ல
- 1.24 Select **incorrect** statement regarding human pancreas,  
மனித சதையி தொடர்பான தவறான கூற்று
- (a) It function both as an exocrine and as endocrine gland  
இது அகஞ்சுரக்கும், புறஞ்சுரக்கும் சுரப்பி இரண்டாகவும் தொழிற்படும்
- (b) Pancreatic juice contains two proteolytic enzymes  
சதையச்சாறு இரண்டு புரதப்பிரிப்பு நொதியங்களைக் கொண்டுள்ளது
- (c) Damage to langerhan islets may lead to diabetes mellitus  
இலங்ககான் சிறுதீவுகளில் ஏற்படும் பாதிப்பு நீரிழிவிற்கு இட்டுச்செல்லும்
- (d) Secretin regulates functioning of the pancreas  
சுரப்பு சதையியின் தொழிற்பாட்டைச் சீராக்கும்
- 1.25 Human thoracic vertebrae consists of  
மனித நெஞ்சறை முள்ளென்பு கொண்டிருப்பது
- (a) 14 bones.  
14 என்புகள்
- (b) 12 bones.  
12 என்புகள்
- (c) 15 bones.  
15 என்புகள்
- (d) 13 bones.  
13 என்புகள்



### Structured essay questions (Part I- B)

அமைப்புக் கட்டுரை வினாக்கள்(பகுதி I- B )

1-B

i. What is meant by nutrition

போசணை என்பதால் விளங்குவது யாது

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ii. State the main processes of holozoic mode of nutrition.

முழுமையாக விழுங்கும் போசணை முறையின் பிரதான படிமுறைகளைத் தருக.

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iii. What is the function of ptyalin present in human saliva?

மனித உமிழ்நீரிலுள்ள தயலினின் தொழில் என்ன?

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iv. Give three functions of the human gastric juice

மனித உதரச்சாற்றின் தொழில்கள் மூன்று தருக.

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v. How absorption is increased in the small intestine of man.

மனித சிறுகுடலின் அகத்துறிஞ்சல் எவ்வாறு அதிகரிக்கப்பட்டுள்ளது

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vi. Name three proteolytic enzymes in human pancreatic juice.

மனித சதையச்சாற்றிலுள்ள மூன்று புரதப்பிரிப்பு நொதியங்களைப் பெயரிடுக.

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- vii. What are the functions of amino peptidases in intestinal juice?  
குடற்சாற்றிலுள்ள அமினோபெப்ரிடேசுக்களின் தொழில் யாது?

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- viii. Name the two parts of the alimentary canal where fat is digested  
கொழுப்பு சமிபாடு நடைபெறும் சமிபாட்டு தொகுதியின் இரண்டு பகுதிகளைப் பெயரிடுக.

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- viii. Give two non enzymatic substances found in bile.  
பித்தத்தில் காணப்படும் புரதமற்ற பதார்த்தங்கள் இரண்டு தருக.

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2.

- i. What is meant by excretion?  
கழித்தல் என்பதனால் விளங்குவது யாது?

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- ii. How does defecation differ from excretion?  
மலங்கழித்தல் எவ்வாறு கழித்தலிலிருந்து வேறுபடுகிறது?

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- iii. State the two main excretory products of man.  
மனிதனின் கழிவுப்பொருட்கள் இரண்டை தருக.

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- iv. Name two animal groups that excrete solid nitrogenous waste as products.  
நைதரசன் கழிவுகளை திண்ம நிலையில் வெளியேற்றும் விலங்குக் கூட்டம் இரண்டைப் பெயரிடுக.

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- v. What are the excretory organs of earth worm?  
மண்புழுவின் கழிவுகற்றும் அங்கம் யாது?

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- vi. State two main factors which determine the nature of excretory products of an animal.  
ஒரு விலங்கின் கழிவுப் பொருளை தீர்மானிக்கும் காரணிகள் இரண்டைத் தருக.

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- vii. Give three functions of the human kidney other than urine production.  
மனித சிறுநீரகத்தின் சிறுநீர் உருவாக்கம் தவிரந்த தொழிற்பாடுகள் மூன்று தருக.

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- viii. Name three ions secreted by the human nephron.  
மனித சிறுநீரகத்தியினால் சுரக்கப்படும் அயன்கள் மூன்று தருக.

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- ix. State one main function of the juxta glomerular complex of the human kidney.  
மனித சிறுநீரகத்தின் அண்மைக் கலன்கோளசிக்கலின் பிரதான தொழில் ஒன்று தருக.

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- x. Explain briefly why it is necessary to drink water frequently to reduce the risk of developing stones in the kidney.

சிறுநீரகத்தில் கல் உருவாவதை தடுக்க அடிக்கடி நீர் அருந்துவது ஏன் அவசியமாகுமென சுருக்கமாக விளக்குக.

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## PART B

## பகுதி B

## Essay questions

கட்டுரை வினாக்கள்

Answer any **three (03)** questions

ஏதாவது மூன்று(03) வினாக்களுக்கு விடையளிக்க

2. (i) What is meant by “ biodiversity”?

“உயிரினப்பல்வகைமை” என்பதால் விளங்குவது யாது?

(ii) What are the factors affect to the loss of biodiversity?

உயிரினப்பல்வகைமை இழப்பை பாதிக்கும் காரணிகள் எவை?

(iii) Discuss the methods that are used to conserve biodiversity in Sri Lanka.

இலங்கையில் உயிரினப்பல்வகைமையை பாதுகாக்க மேற்கொள்ளப்படும் முறைகளை கலந்துரையாடுக.

3. Explain how temperature is regulated in human body.

மனித உடலில் வெப்பநிலை எவ்வாறு சீராக்கப்படுகின்றது என விளக்குக.

4. (i) What is meant by “ respiration”?

சுவாசம் என்பதால் விளங்குவது யாது?

(ii) What are the main features that should be present in an efficient respiratory surface of an animal?

ஒரு விலங்கின் வினைத்திறனான சுவாச மேற்பரப்பில் இருக்கவேண்டிய இயல்புகள் யாது?

(iii) Briefly describe the respiratory structures found in invertebrates.

முள்ளந்தண்டிலிகளில் காணப்படும் சுவாசக்கட்டமைப்புகளை சுருக்கமாக வர்ணிக்க.

5. (i) List the characteristic features of phylum Mollusca.

கணம் மொலஸ்காவின் பொதுச்சிறப்பியல்புகளை பட்டியலிடுக.

(ii). Name the classes belong to this phylum and explain characteristic features of these classes.

இந்தக் கணத்தைச் சார்ந்த வகுப்புகளை பெயரிடுக. இவ்வகுப்புகளின் பொதுச்சிறப்பியல்புகளை விளக்குக.

6. Write short notes any **two (02)** of the following

பின்வருவனவற்றில் இரண்டினை பற்றி சிறகுறிப்பு எழுதுக.

(a). Locomotion on land

தரையில் இடப்பெயர்ச்சி

(b). Air pollution

வளி மாசடைதல்

(c). Nervous systems in invertebrates.

முள்ளந்தண்டிலிகளின் நரம்புத்தொகுதிகள்

(d) Cardiac muscle.

இதய தசை

சுட்டெண்.....

MCQ பெட்டி

வினா இல.	a	b	c	d
1.1				
1.2				
1.3				
1.4				
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