

SAMPLE QUESTION PAPER
Zoology
HIGHER SECONDARY



GOVERNMENT OF KERALA
GENERAL EDUCATION DEPARTMENT

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING (SCERT)
Poojappura, Thiruvananthapuram



Guidelines for the preparation of question paper

1. Question paper may be prepared in accordance with the design and blue print so as to ensure fair distribution of Curriculum Objectives/ content areas and types of questions.
2. Question should be based on the Curriculum Objectives.
3. Curriculum Objectives can be clubbed or can be split into shorter chunks, whenever necessary, for framing questions.
4. Questions for assessing higher order mental processes should be framed, focusing on the ability to apply, analyse, evaluate and think creatively.
5. Different types of questions - objective type, short answer type, essay type etc., shall be included in the question paper.
6. There need not be separate sections in the question paper for different types of questions.
7. Questions that test mere recalling and rote learning shall be avoided.
8. A fair distribution of open-ended questions shall be included to promote divergent and creative thinking.
9. Question texts and the directions given shall be simple, clear and comprehensive.
10. Objective type questions should aim at testing higher order mental processes.
11. There shall not be a rigid pattern regarding the type of questions, number of questions and order of questions.
12. Questions shall be life-related
13. Questions shall be in accordance with the learning activities.
14. Care shall be taken to avoid gender bias, communal sentiments etc. in the questions framed.
15. Adequate hints for answering the questions shall be given, wherever necessary.
16. Choice of questions may be given only upto a maximum of 20% of the total score. While giving the choice, due attention shall be given to select the same content area/ curriculum objective, scores, mental processes involved etc.

17. The duration of the examination will be 2 hrs for subjects having 60 scores and 2½ hrs for those having 80 scores, in addition to the *cool off time* for 15 mts.
18. Question paper shall be bilingual (English and Malayalam) except in languages. Technical terms can be transliterated wherever necessary.
19. Scores for objective type questions shall not exceed 20% of the total score.
20. Maximum score for a question shall not exceed 10% of the total score. However in Botany and Zoology a maximum of 5 score can be given to a question. Fractions may be avoided.
21. All questions should have an entry level, so that all learners who have undergone the learning process can get the minimum score. However, the possibility of applying higher order mental process, considering the different levels of the learners shall be taken into account.
22. Score should be noted in the question paper against each question and word limit may be specified wherever necessary.
23. Score shall be given to a question in accordance with the mental processes involved in answering it.
24. The possibility of using a single question text as the question text for other questions can be explored.
25. While setting a question paper, the time allocation shall be in accordance with the time for reading the questions and thinking, planning and writing time of the answer.



Guidelines for the Scoring Indicators

1. Scoring indicators should reflect the mental processes involved in answering that question.
2. Concepts to be evaluated should be clear and specific.
3. Scoring key for open-ended questions shall give due consideration to a fairly wide range of possible responses. It may include sequencing of ideas, relevance, originality, creativity, level of thinking, presentation etc.
4. The scoring key should indicate the split up scores for the essential lower order mental processes and the higher order mental processes involved in the answer.
5. Reasonable split up may be given for the scores.
6. While evaluating the ability to express the knowledge constructed by the learner, limitations in language shall be ignored.



Guidelines - Subject Specific

1. While developing question paper care should be taken to avoid diagrams from local text book.
2. Care should be taken to avoid those questions aimed to assess the drawing skills of the learner directly, as it is evaluated in CE and PE. But different formats of diagram such as schematic diagram, Flow chart, graphs, etc can be included to assess the conceptual knowledge and other mental process
3. The cool off time of 15 minutes is for both Zoology and Botany



Mental Process

- 1 Retrieves/recollects /retells information
- 2 Readily makes connections to new information based on past experience and formulates initial ideas/ concepts.
- 3 Detects similarities and differences
- 4 Classifies/categories/ organises information appropriately
- 5 Translates/ Transfer knowledge/ understanding and applies them in new situations
- 6 Establishes cause- effect relationship
- 7 Makes connection/ relates prior knowledge to new information/applies reasoning and draw inferences.
- 8 Communicates knowledge/understanding through different media
- 9 Imagines/ fantasises/designs/predicts based on received information.
- 10 Judges/appraises/evaluates the merits or demerits of an idea/ develops own solutions to a problem.



Curriculum Objectives

1. To understand nutrition, its types, food components and disorders related to nutrition through seminar, discussion, chart album preparation Prepare notes, seminar paper & seminar report
2. To make an awareness about the alimentary canal of cockroach and human through observation of chart, CD, IT, model, labwork, dissection, discussion etc.
3. To get an idea about the process of digestion, role of enzymes and hormones in digestion and absorption through labwork, discussion etc. Preparation of chart, and schematic diagram
4. To understand organs of respiration and gas exchange in cockroach through observation of chart, labwork, discussion etc. Preparation of notes
5. To have a clear idea of human respiratory organs, mechanism of breathing its regulation and transport of gases through discussion, observation of models charts etc. Preparation of notes
6. To gain a thorough knowledge on respiratory pigments, respiratory disorders and high altitude problems through seminar discussion etc. Preparation of notes, seminar paper and seminar report
7. To understand types of circulation in animals composition of human blood, structure and working of human heart, its regulation through observation of charts, model CD, IT, specimen, labwork, demonstration etc. Prepare notes.
8. To make a clear idea about blood related disorders, role of ECG, pacemaker, and lymphatic system through observation of charts, demonstration, project etc. prepare notes and Project report
9. To get a thorough knowledge about the process of excretion in cockroach, structure and functions of human Kidney, role of kidney in osmoregulation, dialysis, kidney transplantation and endocrine regulation of excretion through observation of model, chart, assignment, discussion etc.
10. To understand the role of skin, lung and liver as excretory organs, normal or abnormal composition of urine, classification of animals based on nitrogenous waste through discussion, labwork etc.
11. To make an awareness about human skeletal system, types of joints, disorders of bone and cartilage through labwork, observation of chart, specimen, discussion etc. Prepare notes and tables
12. To understand different types of muscles, mechanism of muscle contraction role of red and white muscle in movement through observation of slide, chart, CD IT, working model, discussion etc. Prepare notes
13. To understand the structure of nervous system in cockroach and human nervous system, structure and function of brain and spinal cord through observation of models, charts, CD, IT, specimen, lab work, drawing diagram, discussion etc. Prepare notes and tables.

14. To enable the students make aware about the mechanism of transmission of nerve impulse, reflex action, structure and function of sensory receptors through observation of models, CD, IT, lab work, drawing diagrams chart, discussion etc. Prepare notes, tables and schematic diagram.
15. To gain knowledge on the position of endocrine glands, their secretions functions through observation, discussion, concept map preparation, development of schematic diagram, bulletin board activity, preparation of album, charts etc. Prepare notes
16. To understand the hormonal imbalance and diseases and the role of messengers and regulators feed back control through observation of chart, album, discussion etc. Prepare notes and concept map.
16. To get clarity in asexual and sexual reproduction and understand male and female reproductive organs of human being through chart, observation, drawing, discussion etc. Prepare notes.
17. To understand reproductive cycle in human female, gametogenesis and its hormonal control through discussion, observation of chart, slide, lab work drawing etc. Prepare notes
18. To get an idea about the fertilization, development of zygote and germ layers and their derivatives, extra embryonic membranes, placenta and parturition through discussion observation of specimen, chart, CD, IT , lab work, interview with a medical partitioner etc. Prepare notes
20. To understand biotic resources, classification of natural resources, environmental ethics of resources and use through seminar, discussion, project etc. Prepare notes and seminar report.
22. To understand magnitude and levels of biodiveristy, threats of biodiversity and conservation of biodiversity through discussion, assignment, project, field trip etc. Prepare project report and notes.
23. To understand the concept of human population, growth, characteristics and factors affecting population through discussion, assignment etc. Prepare notes.
24. To make a clear understanding about the impact of population growth, common problem of adollescence problem related to drugs, smoking, alcoholism and population as a resource through seminar, discussion etc. Prepare notes and seminar reports.
25. To enable the students aware about the modern techniques in disease diagnosis and treatment through visiting a diagnostic lab or hospital and discussion using CD, IT, Interview with a medical practitioner etc. Prepare notes.
26. To develop a thorough understanding regarding AIDS, STD, Cancer, Biotechnology of theraputic hormones, interferon's immune modulator through discussion using CD, IT etc. Prepare notes.
27. To understand recent advances in vaccine, organ transplantation and immune disorders, through discussion, role play, assignment etc. Prepare notes



Design of the Question Paper

WEIGHTG TO CONTENT / CO

Sl. No	Units	Subunits / Chapter	CO	Score	Score%
1.	Animal Physiology	Animal Nutrition	1-3	2	6.7
		Respiration in Animals	4-6	2	6.7
		Circulation in Animals	7,8	3	10
		Osmoregulation and Excretion in Animals	9,10	2	6.7
		Movement and Locomotion in animals	11,12	2	6.7
		Nervous Co-ordination and integration in animals	13-14	3	10
		Chemical Co-ordination in animals	15-16	2	6.7
2.		Reproduction and Development	17-19	3	10
3.		Biodiversity and Conservation	20,21	3	10
4.	Human Welfare biology	Human population and health	22,23	2	6.7
		Biomedical Technologies	24,25	4	13.3
		Immune System & Human Health	26	2	6.7
		Total	26	30	100

WEIGHTAGE TO TYPE OF QUESTION

Sl.No	Type of Question	No.of questions	Score	% Score
1	Objective type (score-1)	2	2	6.7
2	Very Short Answer (score-2)	7	14	46.7
3	Essay (score 3-5)	4	14	46.7
	Total	13	30	100

BLUE PRINT

Sl. No	Units	Sub units./ Chapter	CO	Type of Question			Score	Score%
				Objective	Short Answer	Essay		
1.	Animal Physiology	Animal Nutrition	1-3			*2 ₍₋₎	2	6.7
		Respiration in Animals	4-6		2 ₍₁₎		2	6.7
		Circulation in Animals	7,8			*3 ₍₁₎	3	10
		Osmoregulation and Excretion in Animals	9,10		2 ₍₁₎		2	6.7
		Movement and Locomotion in animals	11,12		2 ₍₁₎		2	6.7
		Nervous Co-ordination and integration in animals	13-14			3 ₍₁₎	3	10
		Chemical Co-ordination in animals	15-16		2 ₍₁₎		2	6.7
2.		Reproduction and Development	17-19			3 ₍₁₎	3	10
3.		Biodiversity and Conservation	20,21	1 ₍₁₎	2 ₍₁₎		3	10
4.	Human Welfare biology	Human population and health	22,23		2 ₍₁₎		2	6.7
		Biomedical Technologies	24,25	1 ₍₁₎		3 ₍₁₎	4	13.3
		Immune System & Human Health	26		2 ₍₁₎		2	6.7
		Total		2 ₍₂₎	14 ₍₇₎	14 ₍₄₎		100

Foot Note : The number outside the brackets indicates the scores of the questions and the number inside the brackets indicates the number of question.

* this question splits in to two subunits viz, animal nutrition and circulation in animals.

A choice, shall be given to this question.

HIGHER SECONDARY COURSE
SAMPLE QUESTION PAPER

Std. XII

ZOOLOGYTotal Score: 30
Time 1 Hrs**INSTRUCTIONS**

- 1 Read questions carefully before answering.
- 2 Figures and graphs should be shown in the answer sheet itself
- 3 All the questions are compulsory and only internal choice is allowed.
- 4 When you select a question, all the sub questions must be answered from the same question itself.
- 5 Maximum time allowed is 1 hour.
- 6 First 15 minutes is cool off time common for Botany and Zoology during which you should not answer the questions. This time is meant to read the questions carefully.
- 7 Malayalam version of the questions is also provided.

1 Select the most correct statement from the following

- Positron emission tomography is more harmful than sonography
- The most effective technique to detect cerebral thrombosis is X-Ray
- EEG is usually used to detect the defects of the heart
- Polygraphy is usually used to detect cancer

ചുവടെ ചേർത്തിരിക്കുന്ന പ്രസ്താവനകളിൽ നിന്നും ഏറ്റവും ശരിയെന്ന് തോന്നുന്നത് തിരഞ്ഞെടുക്കുക

- പോസിട്രോൺ എമിഷൻ ട്രോമോഗ്രാഫി, സോണോഗ്രാഫിയേക്കാൾ ശരീരത്തിന് ഹാനികരമാണ്
- സെറിബ്രൽ ട്രോംബോസിസ് കണ്ടെത്തുവാനുള്ള ഏറ്റവും മികച്ച മാർഗമാണ് എക്സ്-റേ
- ഹൃദയത്തിന്റെ പ്രവർത്തനവൈകല്യം കണ്ടെത്താൻ EEG ഉപയോഗിക്കുന്നു
- ക്യാൻസർ നിർണയിക്കുവാനുള്ള ഒരു ഉപാധിയാണ് പോളിഗ്രാഫി

(Score-1)

2 Suggest a proper title for a poster, you have prepared as a part of wild life week celebrations related with tiger conservation

വന്യജീവി വാരാഘോഷത്തോടനുബന്ധിച്ച് സ്കൂളിൽ 'കടുവസംരക്ഷണ'വുമായി ബന്ധപ്പെടുത്തി നിങ്ങൾ തയ്യാറാക്കിയ പോസ്റ്ററിന് അനുയോജ്യമായ ഒരു തലക്കെട്ടെഴുതുക.

(Score-1)

3 A slogan related with family planning program is given below

"We two, have two" "We one, have one"

As a citizen of India, state your response on it.

Hint : in the year 2020 it is expected that India becomes the most populous nation in the world

കുടുംബാസൂത്രണവുമായി ബന്ധപ്പെട്ട മുദ്രാവാക്യമാണ് താഴെ കൊടുത്തിരിക്കുന്നത്

“നാം രണ്ട്, നമുക്ക് രണ്ട്”, “നാം ഒന്ന്, നമുക്കൊന്ന്”

മുകളിൽ കൊടുത്തിരിക്കുന്ന മുദ്രാവാക്യങ്ങളോട് ഒരു ഇന്ത്യക്കാരനെന്ന നിലയിൽ നിങ്ങൾ എങ്ങനെ പ്രതികരിക്കുന്നു ?

സൂചന : ഏതാണ്ട് 2020 ഓടെ ഇന്ത്യ ലോകത്തിലെ ഏറ്റവും ജനസംഖ്യയുള്ള രാഷ്ട്രമാകുമെന്ന് പ്രതീക്ഷിക്കുന്നു.

(Score-1)

4. The science club in your school is decided to organise a street play aiming at giving public awareness against AIDS

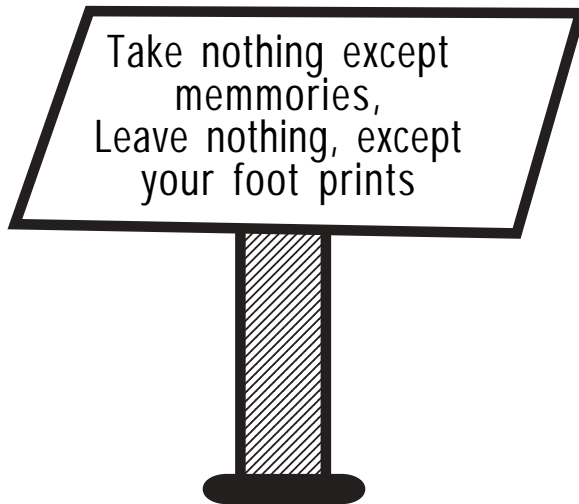
- a) Mention the important characters performing in this play (1)
- b) State the major ideas you are going to convey through the play (1)

നിങ്ങളുടെ സ്കൂളിൽ സയൻസ് ക്ലബിന്റെ ആഭിമുഖ്യത്തിൽ, എയ്ഡ്സിനെതിരെ, പൊതുജനങ്ങൾക്ക് ബോധവൽക്കരണം നൽകുന്നതിനായി ഒരു തെരുവുനാടകം സംഘടിപ്പിക്കാൻ തീരുമാനിച്ചു എന്നു കരുതുക.

- a) തെരുവുനാടകത്തിൽ പങ്കെടുക്കേണ്ട പ്രധാന കഥാപാത്രങ്ങൾ ആരെല്ലാം ? (1)
- b) തെരുവുനാടകത്തിലൂടെ നിങ്ങൾ അവതരിപ്പിക്കാനുദ്ദേശിക്കുന്ന പ്രധാന ആശയങ്ങൾ ഏതെല്ലാം ? (1)

(Score-2)

5.



The board you see is placed in front of a national park. Evaluate the quotation in the board and state your opinion, keeping in mind the need for biodiversity conservation.

ഒരു നാഷണൽ പാർക്കിന്റെ മുന്നിൽ സ്ഥാപിച്ചിരിക്കുന്ന ബോർഡിലെ വാക്യമാണ് മുകളിൽ കാണിച്ചിരിക്കുന്നത്. അത് വായിച്ച് വിലയിരുത്തി, വന്യജീവി സംരക്ഷണം എന്ന ആശയം മുന്നിൽകണ്ട് നിങ്ങളുടെ അഭിപ്രായം രേഖപ്പെടുത്തുക.

(Score-2)

6. Ramu and John are two athletes in your school. Ramu is a sprinter, while John is a long distance runner. As a student of Zoology state the major differences in physiological and structural aspects between these two, justify your answer.

Hint: Sprinters require rapid and fast movement

Long distance runner requires slow but prolonged movements

രാമുവും ജോണും നിങ്ങളുടെ സ്കൂളിലെ രണ്ട് കായികതാരങ്ങളാണ്. രാമു ഒരു സ്പ്രിന്ററും ജോൺ ഒരു ദീർഘദൂര ഓട്ടക്കാരനുമാണ്. ഒരു സുവോളജി വിദ്യാർത്ഥി എന്ന നിലയിൽ ഇവർ തമ്മിൽ ശരീരിക ഘടനയിൽ ഉള്ള വ്യത്യാസം എന്തെന്ന് എഴുതുക. നിങ്ങളുടെ ഉത്തരത്തെ ന്യായീകരിക്കുക

സൂചന: ഒരു സ്പ്രിന്ററിന് വളരെ ചടുലമായ ചലനങ്ങളാണ് ആവശ്യം

ഒരു ദീർഘദൂര ഓട്ടക്കാരന് വേഗം കുറഞ്ഞതും എന്നാൽ വളരെ നേരം നീണ്ടുനിൽക്കുന്നതുമായ ചലനങ്ങളാണ് ആവശ്യം

(Score-2)

7. Suppose along with flood water, a group of fishes reaches the sea. Is it possible to continue life there?. Justify your answer.

വെള്ളപ്പൊക്കത്തിനു ശേഷം ഒരു കൂട്ടം മത്സ്യങ്ങൾ കടലിലെത്തിയെന്ന് കരുതുക. അവർക്കു തുടർന്നും അവിടെ ജീവിക്കാൻ കഴിയുമോ ? നിങ്ങളുടെ ഉത്തരത്തെ ന്യായീകരിക്കുക.

(Score-2)

8. Respiratory organ in human beings is lungs. But it is said that the function of lungs is controlled and regulated by medulla oblongata, a part of the brain. State how it is possible through a schematic diagram

മനുഷ്യന്റെ ശ്വാസനാവയവം lungs ആണല്ലോ? പക്ഷെ lungs ന്റെ പ്രവർത്തനത്തെ നിയന്ത്രിക്കുന്നതും ഏകോപിപ്പിക്കുന്നതും തലച്ചോറിന്റെ ഭാഗമായ Medulla oblongata ആണെന്ന് പറയുന്നു. ഇത് എങ്ങനെ സാധ്യമാകുന്നു എന്ന് ഒരു സ്കീമാറ്റിക് ഡയഗ്രാമിലൂടെ വിശദമാക്കുക.

(Score-2)

9. A couple having no kids for several years consulted a doctor. After continuous diagnosis, the doctor advised hormonal treatment for the lady

a) Name the hormone, which is deficient in the lady (1)

b) State how this hormone help the lady to become pregnant (1)

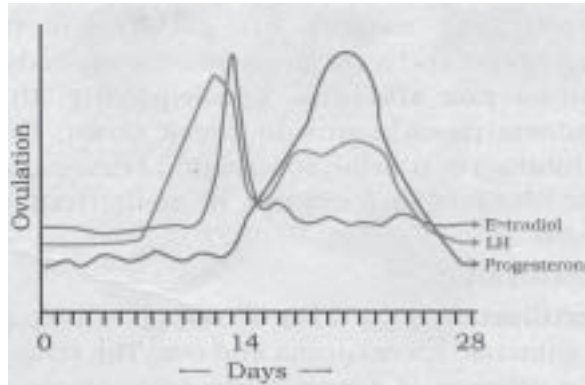
വർഷങ്ങളായി കുട്ടികളില്ലാത്ത ദമ്പതികൾ ഒരു ഡോക്ടറെ സമീപിച്ചു. നിരന്തരമായ പരിശോധനയ്ക്കു ശേഷം ഡോക്ടർ സ്ത്രീക്ക് ഹോർമോൺ ട്രീറ്റ്മെന്റാണ് ആവശ്യമെന്ന് ഉപദേശിച്ചു.

a) മുകളിൽപറഞ്ഞ സ്ത്രീയിൽ ഏത് ഹോർമോണിന്റെ അഭാവമാണ് ഉള്ളതെന്നെഴുതുക (1)

b) എങ്ങനെയാണ് ഒരു സ്ത്രീയെ ഗർഭിണിയാകുവാൻ ഹോർമോൺ സഹായിക്കുന്നതെന്ന് വിശദമാക്കുക (1)

(Total Score-2)

10. Observe the given graphical representation of menstrual cycle



- a) By considering a pregnant lady, redraw the graph (1)
- b) Compare the hormonal differences between a normal and pregnant lady (2)

ചുവടെ കാണിച്ചിരിക്കുന്ന menstrual cycle ആസ്പദമായ ഗ്രാഫിനെ നിരീക്ഷിക്കുക.

- a) ഒരു ഗർഭിണിയിൽ ഉണ്ടാകാൻ സാധ്യതയുള്ള മാറ്റങ്ങൾ പരിഗണിച്ചുകൊണ്ട് ഗ്രാഫിനെ മാറ്റി വരയ്ക്കുക (1)
- b) ഒരു സാധാരണ സ്ത്രീയിലും, ഗർഭിണിയായ സ്ത്രീയിലും ഉണ്ടാകുന്ന ഹോർമോണിന്റെ വ്യത്യാസം താരതമ്യം ചെയ്യുക (1)

(Total Score-3)

11. Suppose a person having blood group B with Rh antigen got severely injured in a road accident. Primary diagnosis of a doctor is given below.

- Severe blood loss
- Head Injury
- Fracture in ribs and femur
- Low BP and Pulse

- a) Mention the biomedical techniques which can be used to confirm the primary diagnosis of the doctor (1)
- b) How the blood loss of the patient can be compensated? Is it possible to receive blood from anybody? Sustaintiate. (2)

Rh antigen നും B group രക്തവുമുള്ള ഒരാൾ ഗുരുതരമായ ഒരു റോഡ് അപകടത്തിൽപ്പെട്ടു. ഡോക്ടറുടെ പ്രാഥമിക നിഗമനം താഴെകൊടുക്കുന്നു.

- അമിത രക്തസ്രാവം
- തലച്ചോറിന് ക്ഷതം
- വാരിയെല്ലിനും, തുടയെല്ലിനും ഒടിവ്
- കുറഞ്ഞ രക്തസമ്മർദ്ദവും, പൾസും

- a) ഡോക്ടറുടെ നിഗമനങ്ങൾ ഉറപ്പിക്കുവാനാവശ്യമായ ബയോമെഡിക്കൽ ടെക്നിക്കിന് ഏതെല്ലാം (1)

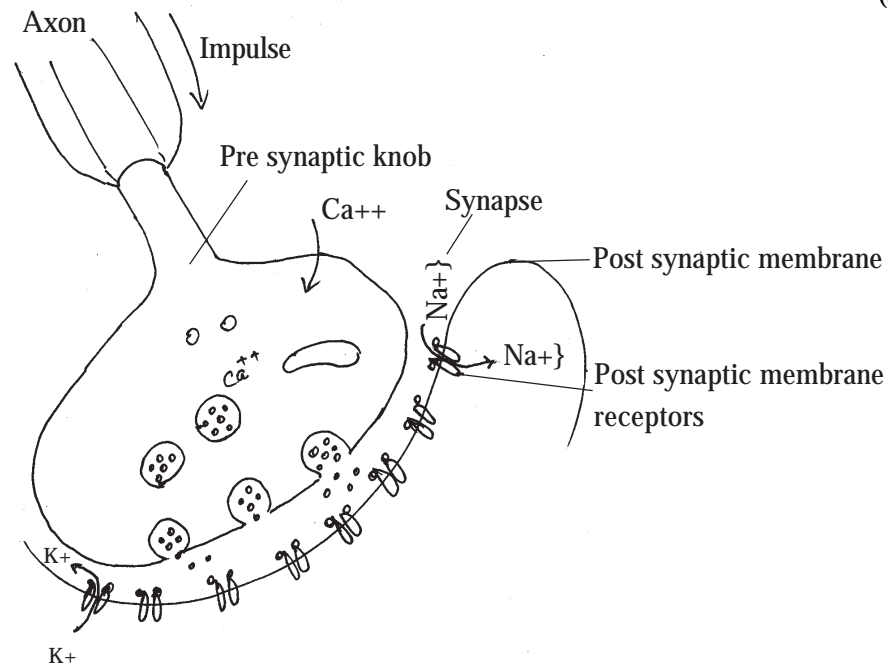
- b) അമിത രക്തസ്രാവം എങ്ങനെ പരിഹരിക്കാം ഇയാൾക്ക് ആരിൽ നിന്നും രക്തം സ്വീകരിക്കുവാൻ കഴിയുമോ ? നിങ്ങളുടെ ഉത്തരത്തെ സാധൂകരിക്കുക. (2)

(Total Score-3)

12. A diagram showing the chemical synaptic transmission is given below. Based on the diagram prepare a flow chart showing the process of synaptic transmission,

സിനാപ്സിലൂടെ ആവേശങ്ങൾ കടന്നുപോകുന്നതിന്റെ ചിത്രമാണ് താഴെകൊടുത്തിരിക്കുന്നത്. ചിത്രത്തെ ആടിസ്ഥാനമാക്കി സിനാപ്റ്റിക് ട്രാൻസ്മിഷൻ വിശദമാകുന്ന ഒരു ഫ്ലോചാർട്ട് വരയ്ക്കുക.

(Score-3)



13. The data collected during a project study by students on circulatory disorders is given below

- Random survey project, tested 600 peoples in a Panchayath

- a) Observe the data and state a conclusion (1)
 b) Suggest any four reasons which lead to cardiovascular diseases (2)
 c) Propose a suitable diet for patients suffering from circulatory disorders substantiate (2)

(Total Score-5)

Disorder	No.of persons affected	Range of age	Male	Female
Hypertension	40	40-60	30	10
Hypotension	30	35-60	19	11
Myocardial infarction	15	40 above	14	1

Higher Secondary Sample Question Paper

സർക്കുലേറ്ററി ഡിസോർഡേഴ്സിനെക്കുറിച്ച് വിദ്യാർത്ഥികൾ ചെയ്ത ഒരു പ്രോജക്ടിന്റെ ഡേറ്റാ ചുവടെ ചേർക്കുന്നു.

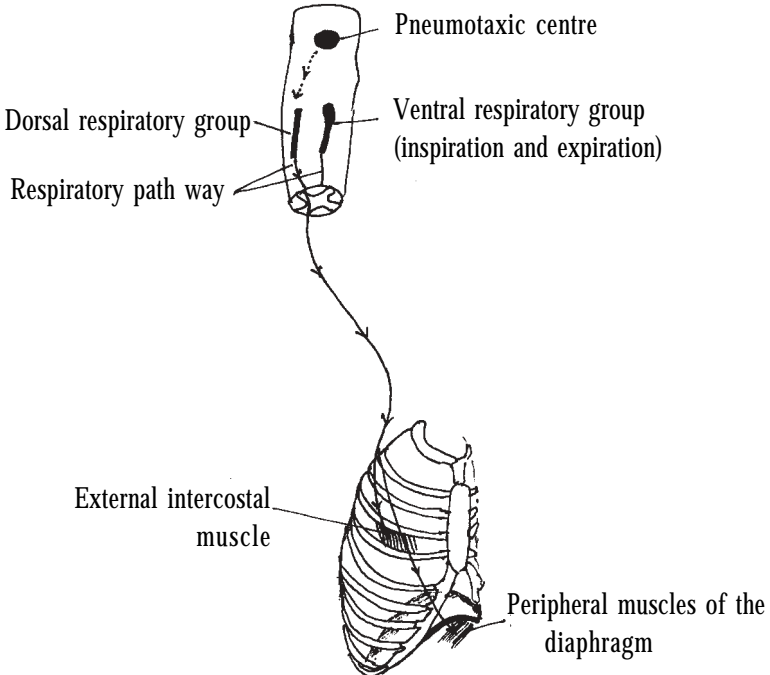
- ഏകദേശം 600 ആളുകളിൽ നിന്നും ശേഖരിച്ചത്

ഡിസോർഡർ	അസുഖം ബാധിച്ചവർ	വയസ്സ്	പുരുഷൻ	സ്ത്രീ
ഹൈപ്പർടെൻഷൻ	40	40 - 60	30	10
ഹൈപ്പോടെൻഷൻ	30	35 - 60	19	11
മയോകാർഡിയൽ ഇൻഫാർക്ഷൻ	15	40 ന് മുകളിൽ	14	1

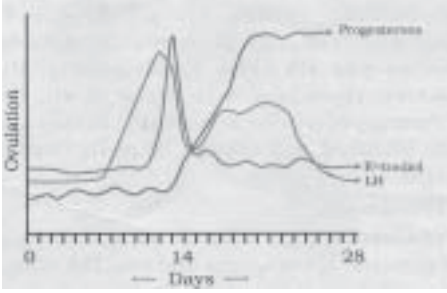
- മുകളിൽ തന്നിരിക്കുന്ന ഡാറ്റാ വിശകലനം ചെയ്ത് ഒരു നിഗമനത്തിലെത്തുക (1)
- കാർഡിയോ വാസ്കുലാർ ഡീസീസ് ഉണ്ടാകാനുള്ള ഏതെങ്കിലും നാല് കാരണങ്ങൾ എഴുതുക (2)
- കാർഡിയോ വാസ്കുലാർ ഡീസീസ് ഉള്ള ആളിന് അനുയോജ്യമായ ഒരു ഭക്ഷണക്രമം നിർദ്ദേശിക്കുക ? നിർദ്ദേശത്തെ സാധൂകരിക്കുക. (സ്കോർ-2)

(ആകെ സ്കോർ-5)

SCORING INDICATORS

Qn.No.	Scoring Indicators	Score	Total Score
1	Positron emission tomography is more harmful than sonography	1	1
2.	Any suitable and matching title in connection with tiger conservation	1	1
3	A write up specifying the reasons for population explosion, its consequences and the measures to keep it under control	2	2
4 a	Human body, T cells, HIV, disease causing bacteria, virus etc (any 4)	1	
b	<ul style="list-style-type: none"> • What is AIDS • Reason for AIDS • How it affects human body • Ways of spreading • How to consider AIDS patients (any 4)	2	2
5	A suitable write up specifying <ul style="list-style-type: none"> • Biodiversity threat • Need for biodiversity conservation • Role of human interaction in habitat destruction • Conservation strategies 	2	2
6	Muscular differences between Ramu and John (ie, Red and White muscles) <ul style="list-style-type: none"> • Functional differences between red and white muscles 	2	2
7	No <ul style="list-style-type: none"> • Osmo regulatory mechanisms in fresh water and marine fishes 	2	2
8	 <p>The diagram illustrates the neural control of breathing. At the top, the brain contains the Pneumotaxic centre, Dorsal respiratory group, and Ventral respiratory group (responsible for inspiration and expiration). The respiratory pathway is shown leading from the brain to the lungs. Below the brain, the External intercostal muscle and Peripheral muscles of the diaphragm are shown, which are involved in the mechanical process of breathing.</p>	2	2
9	LH, Estrogen, Progesterone - Any one Role of any one hormone which helps to become pregnant and maintaining pregnancy	1 1	2

Higher Secondary Sample Question Paper

Qn. No.	Scoring Indicators	Score	Total Score
10.	 <ul style="list-style-type: none"> Explaining the variation in the secretion of LH, Estrogen and Progesterone in normal and pregnant ladies. 	1 2	3
11. a b	<ul style="list-style-type: none"> Blood transfusion CT Scan X-Ray ECG <p>Blood loss can be compensated by blood transfusion. No: Blood transfusion can be practiced only between compatible blood groups</p> <ul style="list-style-type: none"> Proper Explanation 	1/4 1/4 1/4 1/4 2	3
12.	<pre> graph TD A([Nerve impulse reaches the Axon terminal]) --> B[Calcium-Channels of the pre synaptic membrane open] B --> C[Ca2+ ions diffuse in to pre synaptic knob] C --> D[Ca2+ stimulates synaptic vesicles] D --> E[Synaptic vesicles move to postsynaptic membrane and rupture and pass neurotransmitter to the left] E --> F[Neurotransmitter combine with post synaptic membrane receptors] F --> G[It cause to open ion channels in the post synaptic membrane] G --> H[Ions enters to the post synaptic membrane through the open channels and a second electric impulse initiated in the post synaptic cell] H --> I([Nerve impulse pass along the second nerves or muscle cell]) </pre>	3	3
13. a b c	<p>Any possible conclusion</p> <p>Any four reasons which leads to cardiovascular diseases</p> <p>a suitable list of the diet with proper explanation</p>	1 2 2	5

QUESTION WISE ANALYSIS

Sl. No	CO	Chapter	Content Area	Mental Process	Type of questions	Score	% of Score	Time	
1	24	Biomedical Technologies	Modern techniques in disease diagnosis	1,3,6	Objective	1	3.3	2 Minutes	
2.	21	Biodiversity and conservation	Conservation of biodiversity	9,7,8	Objective	1	3.3	2 Minutes	
3.	22,23	Human Population and health	Impact of human population growth	5,7,9,10	Short Answer	2	6.6	4 Minutes	
4.	25,26	Immune system and human health	AIDS, Immune system disorders	4,8,9	Short Answer	2	6.6	4 Minutes	
5.	20	Biodiversity and conservation	Biotic resources and Biodiversity	5,10	Short Answer	2	6.6	4 Minutes	
6.	12	Movement and Locomotion	Different type of Muscles	5,6,7	Short Answer	2	6.6	4 Minutes	
7.	9	Osmoregulation and excretion	Osmoregulation	7,5	Short Answer	2	6.6	4 Minutes	
8.	5	Respiration in animals	Respiration in man and its regulations	7,8	Short Answer	2	6.6	4 Minutes	
9.	15,16	Chemical Co-ordination	Functions of hormones and hormonal imbalance	1,5	Short Answer	2	6.6	4 Minutes	
10.	17,18,19	Reproduction and Development	Hormonal regulation of reproductive cycle	3,4,5,6,8	Essay	3	9.9	6 Minutes	
11.	24	Biomedical Technologies	CT Scan, Xray, ECG Blood transfusion	1,5,7	Essay	3	9.9	6 Minutes	
12.	13,14	Nervous Co-ordination & integration in animals	Nerve impulse conduction and synaptic transmission	4,8	Essay	3	9.9	6 Minutes	
13.	1,8	Circulation in animals & Nutrition in animals	Circulatory disorders different food types and its functions	3,5,6,7,9	Essay	5	16.5	10 Minutes	
		Total					30	100	60