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BIOLOGY

**COMPULSORY
QUESTIONS**

COLLECTED FROM ALL PREVIOUS YEAR
QUESTION PAPERS

MR. SS PRITHVI

Getting in:

- It gives me great pride and pleasure in bringing to you, this wonderful booklet.
 - The compulsory questions are collected from almost all the available previous years' question papers, which will give an idea about to study the topics which will help them to tackle these compulsory questions.
- SS PRITHVI, FOUNDER- PRIT~EDUCATION.

FIRST MID-TERM COMPULSORY QUESTIONS

1	Differentiate GIFT and ZIFT.
2	A brief note on Colostrum.
3	What are clones?
4	Draw the structure of monocot seed and label it.
5	Write three causes of infertility in human beings.
6	'Endothecium is associated with dehiscence of Anther' justify the statement.
7	Amniocentesis - write a short note on it.
8	What is meant by cytoplasmic inheritance?

9

Note : Compulsory Question.

9. What is amniocentesis? why a statutory ban is imposed on this technique?

10

What are the reasons Mendel did choose the Pea plant for his hybridization experiments?

11

Differentiate intersexes from supersexes?
Name the organisms.

12

What are the characteristic features of Huntington's chorea in man?
What is genetic Code?

QUARTERLY COMPULSORY QNS

1

What are the three parts of a patent? List out the general steps in patenting.

2

Define Ecological Niche.

3

Write any three applications of plant tissue culture.

4

What are the Applications of Karyotyping?

5

Give an account on cryopreservation.

6

What are non-infectious disease? Give an example.

7

What do you know about the word PBR 332?

8	What is meant by single cell protein?
9	Draw and write shorts on PBR 322.
10	Placenta is an endocrine tissue - Justify?
11	Give an account on Cryopreservation.
12	What are the applications of Karyotyping?
13	Write any three secondary metabolites and its plant resources with uses.
14	List out chemical alarm signals produced during inflammation?
15	Write the advantages of artificial seeds.
16	What is Amniocentesis?
17	Write any three applications of plant tissue culture.
18	List out the functions of tapetum.
19	What is haplodiploidy?

20	Write the benefits of GM Foods. Mention the risks of them believed to. (Any two only)
21	Differentiate Intersexes from Supersexes. List the common with sexual dimorphism.
22	Write the advantages of Bt cotton.
23	Describe the structure of HIV with a labelled diagram.
24	Give an account on Cryopreservation.
25	What are the applications of Karyotyping?

II - MID TERM COMPULSORY QUESTIONS

1	Classify and Explain the different types of Pollutant.
2	What are ecological equivalents? Give one example.
3	What is Albedo effect and write their effects?
4	Why saccharomyces cerevisiae is suitable for the production of interferons?

5	Write the preventive methods of global warming.
6	Define - Allen's rule.
7	Give any two bioactive molecules produced by microbes and state their uses?
8	One of the applications of biotechnology is "genethrapy" to treat person born with a heridity disease. i) What does "gene therapy" mean? ii) Name the heridity disease for which the first clinical gene therapy was used.
9	Differentiate somatic cell gene therapy from germ line gene therapy.
10	To write effects of Global Warming.
11	What is soil permeability?
12	Write Ten percent Law
13	Differentiate natality and mortality
14	What is called environmental impact arressment?
15	

	What is food web? Write its significance?
16	List out any three differences between r-selected species and K - selected species. Write any 2 adaptations of r-selected species.
17	Why <i>saccharomyces cerevisiae</i> is suitable for the production of interferons?
18	Differentiate primary introduction from secondary introduction.
	Mention the advantages of Cloning.

HALF YEARLY EXAM COMPULSORY QUESTIONS

1	How are artificial seeds produced?
2	How does chemical mediation act as physiological barrier?
3	List out the functions of tapetum
4	Taking the example of peppered moth, explain the action of natural selection. What do you call the above phenomenon?
5	How is anemochory differ from zoochory?
6	What is known as Kin selection?
7	Draw and write shorts on PBR 322. {repeated often}

8	Placenta is an endocrine tissue - Justify?
9	Draw the diagram of Mature anther and label the parts:
10	Write short notes on Eutrophication.
11	What are stem cell Banks? Mention their types.
12	What are the objectives of plant breeding?
13	Write notes on the following. a) Entrophication b) Algal Bloom.
14	What is PAR?
15	Differentiate birth rate from death rate.
16	Draw labeled structure of Plasmid P ^{lac} 322
17	Differentiate primary and secondary energy sources. What do astronauts eat in space for instant energy? Describe that food.
18	What is Bioremediation and write about PET plastic.
19	Sandy soil is not suitable for cultivation. Explain why?
20	Explain the genetic basis of ABO blood grouping in man.
21	How does recycling help reduce pollution?

22	Draw the diagrammatic structure of ovule and label its parts
23	Give the botanical name, family, origin and area of cultivation of Henna.
24	What is organic farming?
25	Compare the terms. Probiotics and Prebiotics.
26	Name and explain the palentological evidence of dict of the Prehistorical animals.
<h2 style="color: red;">REVISION EXAMS</h2> <h2 style="color: red;">COMPULSORY QUESTIONS</h2>	
1	Write a short note on pBR322 plasmid.
2	A child suffer from non functioning of 'T' - Lymphocytes cannot elicit Immunity against pathogen? What is the name of the disease? How it is corrected?
3	Photosynthesis follows the First law of thermodynamics - Justify the statement.
4	What are seed balls?
5	Differentials in situ conservation from exsitu conservation.
6	Differentiate primary introduction from secondary introduction.

7	In the XY chromosomal system sex determination, males have only one X Chromosome, whereas female have two, How does the organism compensate for this dosage differences between the sexes?
8	Write short notes on Heterosis?
9	A character present in grandfather goes to grandson through daughter. Draw flow chart for this parttern of Inheritance.
10	Draw and label the parts of bioreator.
11	Permanent birth control methods are adopted by the individuals who do not want to have any more children.Explain.
12	What is apomixis?
13	"Sex linked inherited traits are more common in males than females". Draw a flow chart to prove it.
14	Draw a neat labelled diagram of the structure of embryo sac.
15	Role of SRY in sex determination.
16	Write the cosmetic uses of Aloe.
17	In the XY chromosomal system of sex determination males have only one 'X' chromosome, whereas females have two. How does the organism compensate for the dosage differenes between the sexes?

18	What are the enzymes can use to cut terminal end and internal phosphodiester bond of nucleotide sequence?
19	If a marriage occurs between normal man ($X^H Y$), and heterozygous hemophiliac woman ($X^H X^h$), what would be the result of F_1 and F_2 ? Draw flow chart.
20	Give an account on the role of jasminum and rose in perfuming.
21	What is meant by "Gene knock out" Explain?
22	Enumerate the uses of turmeric.
23	Explain how ADA deficiency or SCID is caused. What is the right approach for its treatment?
24	Write uses of gene mapping?
25	What is referred to as Bio-magnification?
26	Give the botanical name, family, origin and area of cultivation of Henna.
27	Draw and label the diagram Embryosac.
28	Differentiate between Somatic cell gene therapy and germline genetherapy?
29	What do you know about the word PBR 322?
30	Explain: Natality and Mortality.
31	What is Ecological pyramids.

32	Compare and contrast the insitu and exsitu conservation.
33	How are microbial inoculants used to increase the soil fertility?
34	Briefly describe about microbial fuel cell.
35	You are working in a biotechnology lab with a bacterium E.Celi. How will you cut the nucleotide sequence Explain it.
36	What is Wobble base pairing? Cite an example to explain the same.
37	Generally human activities are against to the ecosystem, where as you student how will you help to protect ecosystem?
38	Explain the genetic basis of ABO blood grouping in man.
39	Draw the diagram of mature anther and label the parts
40	Write notes on the following a) Eutrophication b) Algal Bloom
41	Write any three advantages of artificial seeds.
42	List any three adaptations of aquatic animals which help them to survive in their environment.
43	As a student, How will you conserve your ecosystem.? Write about it.
44	

	"Smoking is injurious to health" - Comment on the statement.
45	What are halophytes? Write about vivipary and pneumatophores.
46	<p>Study the given pedigree chart and identify the genetic disease. How is the disease caused? Are males and females equally affected in this disease? Give reasons.</p>
47	What is Protein Bank?
48	List the adaptations seen in Terrestrial animals?
49	What is pseudo cereal? Give an example.
50	<p>Who disapproved Lamarck's theory of acquisition of characters? Write the difference between seasonal breeders and continuous breeders</p> <p style="text-align: center;">Section - 4</p>
51	What is Ozone hole?
52	Name the hormone secreted by the thymus gland and write down any two functions of that hormone.
53	Seaweed Liquid Fertilizer can be extensively used to promote organic agriculture. Justify.
54	If a marriage occurs between normal man (X^HY) and heterozygous haemophiliac woman (X^HX^h), what would be the result of F_1 and F_2 ? Draw flow chart.

55	What is thermal stratification? Mention their types.
56	A 10 year old child is suffering from chicken pox. Is this infection good or bad. Give reason for your answer.
57	Write the medical waste disposal?
58	Draw the diagram of mature anther and label the parts.
59	What Prophylactic measure would you suggest if the mother is Rh negative and the foetus is Rh positive? When should it be carried out?
60	What is Green House Effect? Draw the relative contribution of Green House Gases.

12TH BIO- COMPULSORY QUESTIONS - PRIT~EDUCATION - SS PRITHVI**PUBLIC AND PTA- COMPULSORY QUESTIONS**

	<p>i. செயற்கையாக மனித இன்கலின் உற்பத்தி செய்யும் முறையின் படிநிலைகளை விளக்குக. Explain the steps involved in the preparation of human insulin artificially.</p>
	<p>What are the three parts of a patent? List out the general steps in patenting.</p>
	<p>Define Ecological Niche.</p>
	<p>புவி வாழிடம் மற்றும் செயல் வாழிடம் ஆகியவற்றிற்கு இடையே உள்ள வேறுபாடுகள் மூன்றினைக் கூறுக. Write the three differences between Habitat and Niche.</p>
	<p>தாத்தாவின் உடலில் உள்ள ஒரு பண்பு மகள் வழியாக பேரனுக்குச் செல்கிறது. இந்த வகை மரபுக்கடத்தலுக்கு வரைபடம் (flowchart) தருக. A character present in grandfather goes to grandson through daughter. Draw flowchart for this pattern of Inheritance.</p>
	<p>தற்சார்பு ஊட்டக்கூறுகளிலிருந்து சார்பூட்டக் கூறுகளை வேறுபடுத்துக. Differentiate Autotrophic components from Heterotrophic components.</p>
	<p>ஒரு கூட்டத்தை நெறிப்படுத்துதலில் காணப்படும் அகக்காரணிகள் மற்றும் புறக்காரணிகளை பட்டியலிடுக. List out intrinsic factors and extrinsic factors in population regulation.</p>
	<p>நுண்ணோக்கி வழி காணும் குலின் அமைப்பினை படம் வரைந்து பாகங்களை குறிக்கவும். Draw the diagrammatic structure of ovule and label its parts.</p>

12TH BIO- COMPULSORY QUESTIONS - PRIT~EDUCATION - SS PRITHVI

	<p>ஒரு சாதாரண ஆணுக்கும் ($X^H Y^-$), ஹீமோபிலியா கலப்புற்ற பெண்ணுக்கும் ($X^H X^h$) இடையே திருமணம் நடைபெற்றால், F_1 மற்றும் F_2 முடிவுகள் எவ்வாறு இருக்கும் ? ஓட்ட விளக்கப்படம் வரைக.</p> <p>If a marriage occurs between normal man ($X^H Y^-$) and heterozygous haemophiliac woman ($X^H X^h$), what would be the result of F_1 and F_2 ? Draw flow chart.</p>
	What is apomixis?
	"Sex linked inherited traits are more common in males than females". Draw a flow chart to prove it.
	Brief about Embryogenesis.
	Covishield vaccine used against corona virus is a live vaccine. It does not produce disease b protects us. How ? (COMMON REVISION -2-APRIL-2022)
	புனி வாழிடம் மற்றும் செயல் வாழிடம் - வேறுபடுத்துக. Distinguish habitat and niche.
	XY குரோமோசோம் வகை பால் நிர்ணயித்தலில் ஆண் உயிரிகள் ஒரு X குரோமோசோமையும் பெண் உயிரிகள் இரண்டு X குரோமோசோம்களையும் கொண்டுள்ளன. பாலினத்திற்கு இடையேயான இந்த அளவீட்டு வேறுபாட்டை உயிரினம் எப்படி ஈடு செய்கிறது ? In the XY chromosomal system of sex determination, males have only one 'X' chromosome, whereas females have two. How does the organism compensate for this dosage differences between the sexes ?

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	<p>பசுமை இல்ல விளைவு என்றால் என்ன ? பசுமை இல்ல வாயுக்கள் யாவை ? What is Green house effect ? What are the gases involved in it ?</p>
	<p>மாகபடுத்திகளின் வகைகள் யாவை ? Classify the pollutants.</p>
	<p>உயிரி கண்காணிப்பு பற்றி சிறு குறிப்பு எழுதுக. Write short notes on Bio-monitoring.</p>
	<p>முதிர் உயிரி திசுக்களை புதுப்பிக்க உதவும் பல்திறன் கொண்ட செல்கள் யாவை ? அவற்றின் அதிக உற்பத்திக்கான மூலாதாரம் எது ? What are the multipotent cells involved in replenishing adult tissue ? What is the rich source for it ?</p>
	<p>List out the functions of tapetum.</p>
	<p>Differentiate 'J' and 'S' shaped curves.</p>
	<p>What is Azolla? தற்காலங்களில் நெல் வயல்களில் அசோலா ஒரு தவிர்க்க முடியாத உயிரினம் ஆகியுள்ளது. Now a days Azolla is an inevitable organism in paddy field. Why? விலாசனை கூ!</p>
	<p>உதவி பெறும் வாழ்க்கையிலிருந்து பகிர்ந்து வாழ்தலை வேறுபடுத்துக Differentiate mutualism from commensalism.</p>

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	<p>மரபணு தொகை ஆராய்ச்சியில் உள்ள அறம்சார் பிரச்சினைகளை பட்டியலிடுக. List out the ethical issues of genomic research</p>
	<p>ஒலி மாசினைக் கட்டுப்படுத்தும் வழிமுறைகளை பட்டியலிடுக. Enumerate the controlling measures of noise pollution.</p>
	<p>ரெஸ்ட்ரிக்டிவ் எண்டோநியூக்ளியேஸ்களுக்கு பெயரிடும் முறை யாது? ஒரு எடுத்துக்காட்டு தருக. What is the naming procedure for restriction endonuclease? Give an example மொத்த சூரிய ஒளியில், 2-10 விழுக்காடு விழுக்காடு</p>
	<p>ஒற்றைத்திறனிலிருந்து குறுதிறனை வேறுபடுத்துக Differentiate oligopotency from unipotency.</p>
	<p>விலங்குகளிலிருந்து வெப்பம் வெளிப்படுவதினால், ஆற்றல் இழப்பு நடக்கிறது. எவ்வாறு? In animals, loss of energy occurs due to evaporation of heat. How? ஒசோன் இழப்பினால் மனிதன் மீது ஏற்படும் நோய்</p>
	<p>ஒரு குள சூழிநிலை மண்டலத்தில் எவ்வாறு பல்வேறு வகை மீன்கள் ஒன்றாக வாழ்கின்றன? How are the different fish communities living in a pond ecosystem?</p>
	<p>சதுப்பு நில சூழல் மண்டலத்தின் சேவைகளை எழுதுக Write the benefits of mangrove ecosystem.</p>

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	<p>தடய அறிவியல் மருத்துவத்தில் PCR தொழில்நுட்பத்தை எவ்வாறு பயன்படுத்தலாம்? How can we utilize PCR technique in the field of forensic medicine?</p>
	<p>நிலையான வேளாண் அபிவிருத்தி என்றால் என்ன? What is known as sustainable development of agriculture?</p>

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