

# GOVT. BOYS HR. SEC. SCHOOL - POCHAMPALLI

## BIOLOGY – ZOOLOGY L. MUTHU M.Sc.,M.Phil.,B.Ed., 1 MARK QUESTIONS PHYSIOLOGY

1. Carbohydrates is composed of C,H,O in the ratio of ----- (1:2:3)
2. ----- Monosaccharides are the integral components of RNA, DNA  
( Pentoses)
3. 1 gm of carbohydrates is capable of yielding energy of -----(4.1C)
4. ----- a polysaccharides is found in liver and muscles (Glycogen)
5. ----- monosaccharides are found in Lactose (glucose+ galactose)
6. In food grains, starch is available as ----- (Pectin)
7. ----- Proteins acts as enzymes. ( Functional)
8. ----- amino acids are essential amino acids among the 20 amino acids (10)
9. In animals lipids is a main constituent of -----(adipose tissue)
10. -----Fatty acids are favoured for persons having high blood pressure. (PUFA)
11. Each gram of lipid is capable of yielding ----- ( 9.3 calories)
12. ----- is called sunshine vitamin. ( vitamin D)
13. The process of maturation of erythrocytes is due to ----- (vitamin B 12)
14. Deficiency of vit. D causes ----- in adults. ( Osteomalacia)
15. ----- deficiency causes pellagra ( Vitamin Niacin)
16. Isometric exercises increases the muscle fibres ability to store -----(Glycogen)
17. ----- plays a role in the rejuvenation of tissues ( Vitamin E)
18. Vitamin A plays a very important role in ----- ( Visual perception)
19. ----- is an auto immune disease (Myasthenia gravis, Multiple sclerosis, rheumatoid arthritis)
20. The proportion of water in human beings is constant at around -----(71 – 78)
21. Digestion starts with ---- (Chewing)
22. The daily secretion of saliva ranges from -----(1000 – 1500ml)
23. The salivary secretion and swallowing is a \_\_\_\_\_(Reflex activity)
24. In stomach chief cells secrete ---- (Enzymes)
25. Heavy working IRM requires ---- Calories for daily activities. (3880)
26. The lining of stomach are protected from the effects of HCL by a layer of -----(Mucous)
27. In stomach , Hcl is secreted by ----- ( Oxyntic cells)
28. The gall stones are formed ----- (Cholesterol)
29. The bile salts converts bigger fat particles into smaller fat globules called the ----  
(Chilomicrons)
30. The pH range of Pancreatic juice ----- ( 7 to 8 )
31. ----- is an exopeptidase. (Carboxypeptidase)
32. Normal BMI range for adults is ----- (19 – 25)
33. From the lumen of the alimentary canal absorbed digested food materials are carried to the liver through ----- (Hepatic portal vein)
34. The chief symptom of advanced Tooth decay is \_\_\_\_\_(tooth ache)
35. The ulcer is mostly due to infections by a bacterium called -----(*Helicobacter pylori*)
36. \_\_\_\_\_ Hernia develops in babies behind the navel ( Umbilical)
37. \_\_\_\_\_ is the inflammation of the appendix leading to severe abdominal pain.  
( Appendicitis)
38. The adult human skeleton consists ----- bone and ----- skeletal muscles ( 206, 700

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39. ----- in the 14 th century B.C. described the treatment of fractures and injuries to limbs ( **Hippocrates** )
40. ----- bridges the gap and establishes contact between the ends of fractured bone. ( **Callus** )
41. Each muscle fibres is made up of 4 to 20 thread like structures called --- ( **Myofibrils** )
42. ----- proposed sliding-filament hypothesis ( **Hanson and Huxley** )
43. The Max. strength of contraction of a muscle is about ----- ( **3.5 kg/sq.cm.** )
44. ----- induces muscle fibre for contraction ( **ACETYLCHOLINE** )
45. Myasthenia Gravis can be cured by a blood-cleaning process called ----- ( **Plasmapheresis** )
46. ----- are also called terotogenic disorder ( **Congenetal deformities** )
47. ----- exercise has beneficial effects on the cardio vascular system ( **Isotonic** )
48. ----- released Ca ions for muscle contraction ( **Sarcoplasmic reticulum** )
49. ----- becoming more common again in communities with high rates of HIV infections ( **TB** )

#### RESPIRATION

50. Inspiration is an ----- ( **active process** )
51. During ----- the diaphragm relaxes and rises to resume the original dome shape [ **Expiration** ]
52. ----- contains a pneumotoxic center ( **Medulla** )
53. Pneumonia is caused by the bacteria ----- [ **Pneumococcal pneumonia** ]
54. TB is caused by ----- [ **Mycobacterium tuberculosis** ]

#### BLOOD CIRCULATION

55. Mitral valve is also called ----- ( **bicuspid valve** )
56. ----- is capable of generating action potential in heart [ **SA node** ]
57. The heart beats at the rate of about ----- times per minutes. ( **72 – 80** )
58. Lubb sound is caused due to closure of the ----- ( **atrio ventricular valve** )
59. The second sound dubb is caused by closure of ----- ( **semilunar valve** )
60. ----- is a coronary artery disease ( **Myocardial infarction** )
61. ----- is a term that describes a strangling or constrictive chest pain ( **Angina** )
62. ----- the technique that uses ultra sound waves to image the interior of heart ( **Echo cardiography** )
63. The heart valve affected narrowing is known as ----- ( **stenosis** )
64. A healthy adult has a blood pressure reading of about ----- ( **120/80 mmHg** )
65. ----- may cause sever unremitting chest pain [ **Myocardial infarction** ]
66. Men are affected earlier than women , because women are protected by ----- ( **Oestrogen hormone** )
67. The first human heart transplant was performed by ---- [ **Prof. Christian Bernard** ]
68. The total blood volume in human female and male ----- [ **4.5 L, 5.6L** ]
69. Males and females RBC numbers respectively ----- [ **5.2 ; 4.5 million** ]
70. The life span of RBC in male and female respectively ----- ( **120, 110 days** )
71. RBCs are manufactured in the ----- ( **Marrow of bones such Ribs and Vertebrae** )
72. ----- WBC contains heparin , which inhibits blood clotting [ **Basophils** ]
73. A thrombus forms with in coronary arteries is known as --- [ **coronary thrombosis** ]
74. When a portion of a thrombus clot becomes fragmented blood it is called ----- [ **Embolus** ]

#### CHEMICAL CO- ORDINATION

75. Maintain a constant inner state irrespective of changes happening in the environment is known as ----- ( **homeostasis** )
76. Nervous tissue having myelin sheath constitute the white matter ----- ( **Axons** )

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77. ----- is the largest part of the diencephalon (**thalamus**)
78. The weight of cerebrum in male and female ----- (**1400 gm, 1200gm**)
79. The midbrain contains four nuclei are collectively called ----- (**Corpora quadrigemina**)
80. ----- relays information from the cerebrum to the cerebellum (**Pons**)
81. ----- involved in the regulation of respiration and heart beat rate (**Medulla**)
82. -----plays an important role in unifying the emotional responses of two sides of brain (**anterior commissures**)
83. ----- means memory loss (**Amnesia**)
84. ----- Sleep is highly useful for our body (**slow wave sleep**)
85. REM sleep lasting -----minutes (**5 – 30**)
86. ----- co-ordinates responses to the sleep-wakes cycle [**hypothalamus**]
87. ----- first demonstrated the conditioned reflex phenomenon [**Ivan Pavlov**]
88. In human the volume of CSF secretion is ----- (**150ml**)
89. The rate of CSF secretion is ----- (**550ml/day**)
90. -----cushions the brain against mechanical shock [**CSF**]
91. The pituitary gland itself is controlled by -----(**hypothalamus**)
92. Pituitary weights about ----- [**500mg**]
93. ----- originates from the floor of diencephalon, as a downward growth
- [Neurohypophysis]**
94. Deficiency of growth hormone in children results in----- [**retarded growth or dwarfism**]
95. In children excessive secretion of GH results the person may reach a height of 7 to 9 feet --- [**gigantism**]
96. The excessive GH in adults causes ----- [**acromegaly**]
97. TSH is a glycoprotein with a molecular weight of -----(**28,000 Daltons**)
98. ----- stimulates the adrenal cortex and its secretions [**ACTH**]
99. TSH, FSH, and LH are -----(**glycoprotein hormones**)
100. Oxytocin means to----- [**rapid birth**]
101. The most important function of the adrenal cortex is -----(**Stress tolerance**)
102. ----- deficiency leads to Diabetes insipidus (**ADH or Vasopressin**)
103. The amino acid residue in thyroxine ----- (**Thyrosine**)
104. Iodine content in thyroxine ----- (**65%**)
105. Pathological bone fracture may be due to -----(**hyper parathyroidism**)
106. -----is very essential for the development of nervous system at the time of birth (Thyroxine)
107. -----is caused due to lack of iodine in the soils of different regions of the world (**Endemic goiter**)
108. The deficiency of thyroxine cause in children from the time of birth----- (**Cretinism**)
109. The deficiency of thyroxine in adults causes -----(**Myxoedema**)
110. The hyper function of thyroid gland results in ----- (**Graves disease**)
111. The half life of parathormone is about -----minutes only (**20 - 30**)
112. Which is calcium lowering hormone ----- (**Calcitonin**)
113. The alpha cells and beta cells of the pancreas secrete hormones respectively----- (**glucagon, insulin**)
114. Glucose produced from Non- carbohydrate substrate-----(**gluconeogenesis**)
115. Hyperglycemic hormone is -----(**glucagon**)
116. All the adrenal corticoid hormones -----[**Steroid**]
117. Adrenalin and Nor-adrenalin hormone belongs to a group called ----- [**catecholamines**]
118. Cortisone acts as an -----[**Anti-inflammatory agent**]

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119. The Ley-dig's cells secrete the androgen hormone -----[**Testosterone**]
120. The corpus luteum of the pregnant women secretes in addition progesterone [**relaxin**]
121. Refraction occurs through three surface of the eye before the light reaches the retina-----(**Cornea, front surface and rear surface of the lens**)
122. At the back of the eye between the lens and the retina is the vitreous humour made of a ----- [**gelatinous mucoprotein**]
123. -----is purple red photosensitive pigment present in the outer segment of the rods. [**Rhodopsin**]
124. -----are responsible for colour perceptions [**Cones**]
125. The ideal refractive state eye is called ----- [**Emmetropia**]
126. ----- is called short sightness [**myopia**]
127. Long sightedness is called -----(**hypermetropia**)
128. The lens curvature is too great or the entire eyeball becomes elongated results -----(**myopia**)
129. When the curvature of the eye lens is not great enough results ----- (**hypermetropia**)
130. Myopia can be corrected by placing a ----- in front of the eye (**Concave lens**)
131. Astigmatism occurs if either -----is distorted. [**Cornea or lens**]
132. -----is the result of a reduction in the amplitude of accommodation with age due to hardening and loss of plasticity of the lens.(**Presbiopia**)
133. ----- is the opacity in the lens of the eye (**Cataract**)
134. -----is an acute infection of the gland located at the eyelid margin.(**Stye**)
135. Most conjunctival infections are caused by bacteria ----- [**Staphylococci**]
136. Allergic conjunctivitis may be relieved by use of eye drops containing an ----- -- (**Anti histamine drug**)
137. ----- is a serious disorder of the eye and is a common cause of blindness. [**glaucoma**]
138. Audible frequencies to humans is in the range ---- cycles per second.( **20 – 20,000**)
139. The human ear is most sensitive to -----range (**50 – 5000Hz**)
140. Most sounds we normally hear fall within -----Hz [**500 – 5000**]
141. ----- scale is used to measure the intensity of sound [**Decibel db**]
142. In middle ear, which auditory ossicle is attached to the TM -----[**Malleus**]
143. The tympanic Membrane has an area of -----[**90 mm**]
144. The inner ear [labyrinth] is made up of the -----and -----[**Cochlea, Vestibule**]
145. The cochlear portion of the labyrinth is a tube coiled -----times [**2.75**]
146. -----Located on the basilar membrane, which contains the auditory receptors [**organ of Corti**]
147. Patients with a conductive defect in ear -----may be helped [**Hearing aid**]
148. The industrial noise survey of India recognized noise levels----- [**81dB – 120dB**]
149. Which is loud noises -----[**above 130 dB**]
150. The percentage of weight of the skin in total mass -----[**8%**]
151. Skin having an area between -----[**1.1 – 2.2 m**]
152. ----- secretes an oily substance called sebum [**Sebaceous gland**]
153. -----are found throughout the body opening on the surface and secreting a clear watery fluid [**merocrine gland**]
154. Melanin is stored in -----[**Melanophore**]
155. The synthesis of melanin from the amino acid called -----[**Thyroxine**]

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156. Hyperpigmentation on skin of face, nipples and genitalia, during Pregnancy under the influence of ----hormone. [**oestrogen**]
157. The taste bud sensitive to ---are near the tip. [**Sweet**]
158. The taste bud in the palate respond to --- and ---- [**Sour and bitter**]
159. In human excessive exposure to UV rays cause ----- (**Skin cancer**)
160. Ultra filtration of blood takes place in the malpighian body, which acts as a -- -----[**biological filter**]
161. In man, the blood contains urea is about -----gm/100ml of blood (**0.04**)
162. ----- comprises Bowmann's capsule and glomeruli.[ **Malpighian capsule**]
163. The kidneys normally receive about-----of the cardiac output. [**200ml or 20 – 25%**]
164. In 24 hours the total volume of glomerular filtrate is -----[**170 – 180 liters**]
165. In man glomerular filtration rate is about -----[**125ml/minutes**]
166. In collecting tubule, the osmotic reabsorption of water under the influence of the hormone –[**ADH**]
167. -----gm of urea filtered in each day [**53gm**]
168. Kidney stone consists mainly of -----[**Calcium Oxalate and or Phosphate**]
169. Stones consisting mainly of -----may occur in people with Gout. [ **uric acid**]
170. The principle organ of urea biosynthesis----- [**Liver**]
171. Stones in the bladder and lower ureter canbe crushed and removed by ---- [**cystoscopy (or) ureteroscopy**]
172. The first line of treatment is ----which disintegrates stones by focusing shock waves. [**Lithotripsy**]
173. Which is called artificial kidney? -----(**Dializer**)
174. Untreated diabetes exhibits, excretion of increased quantity of urine. [**Polyurea**]
175. Excessive appetite leads to increased in take to food -----[**Polyphagia**]
176. Ley dig's cells secretes the hormone -----[**Testosterone**]
177. The temperature of testes should be maintained at ----for an effective productuion of spermatozoa [**32 C**]
178. Puberty occurs between age -----[**12 – 15 years**]
179. Sperms are manufactured in the two testes at a rate of about ----[**125 million /each day**]
180. -----of sperms in single ejaculation [ **50 million**]
181. ----- is a milky mucoid fliu which contains sperms [**semen**]
182. ----- hormone inhibit the action of testosterone . [**inhibitin**]
183. -----is the principle hormone secreted by the corpus lutium [ **Progesterone**]
184. During pregnancy ----- hormone inhibits contracytion of uterus. [ **Progesterone**]
185. Human ovrum is small and contain no yolk. Hence is called----- [**Alecithal**]
186. Human ovum is more than – -----in diameter [**100 um**]
187. Some of the follicular cells of the ovary are found outside the zona pellucida ---- (**Corona radiata**)
188. Zona radiata Is replaced bu an unstriated membrane ----- [ **Zona pellucida**]
189. The folloicles and the developing oocytes together constitute --- [**graffian follicle**]
190. If the ovum is not fertilized in the follophian tube it dies in ----[ **12 –24 hours**]
191. In menstrual cycle, the days of follicular phase and luteal phase respectively ---- [**5<sup>th</sup> day – 14<sup>th</sup> day; 15<sup>th</sup> dy – 28<sup>th</sup> day**]
192. After ovulation, the empty follicle is transformed into a transitory endocrine gland called -----[**corpus lueum**]
193. At the termination of menstruation the corpus luteum is converted into a scar tissue called-----[**corpus albicans**]

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194. In successful implantation takes place in about ----- of test tube babies technique. [ **20%** ]
195. The first success with of test tube babies technique was achieved by -----  
[**Stephoe and Edwards of UK**]
196. Copper 'T' can remain for a period of ----- [ **3 years** ]
197. -----are the methods of permanent birth control in male and female respectively  
[ **vasectomy; tubectomy** ]
198. A small segment of the myofibril is called as the -----[**Sarcomere**]
199. When the alveoli are stretched at the height of inspiration the receptors send stimuli to the expiratory center through -----[**vagus nerve**]
200. Fertilization taking place in human beings -----[**Follopian tube**]
201. In vitro fertilization when the embryo is put inside the uterine endometrium  
[ **8 celled stage** ]
202. -----type of diabetes develops due to heavy viral infection [ **Insulin dependent** ]
203. The thick filaments of sarcomere is formed of the contractile protein -----  
[**Myosin 100A**]
204. Fibrinogen ?→ Fibrin ----- [ **Thrombin** ]
205. Transmission of stimulus in the synaptic cleft happens through transmitter substances such as -----[**Acetylcholine**]
206. Corneal epithelium in eye, become wrinkled and carotinisid -----[**Xerophthalmia**]
207. The percentage of O<sub>2</sub> in inhaled gas -----[ **21%** ]
208. Which part of midbrain are involved in visual reflexes -----[**Superior colliculi**]
209. Other name of Grave's disease -----[**Thyrotoxicosis or exophthalmic goitre**]

### MICROBIOLOGY

1. ----- Became the director of the institute for infective disease [ **Robert Koch** ]
2. -----Developed methods of sterilization and of pasteurization [ **Louis Pasteur** ]
3. Pasteur observed -----bacteria in Lactic fermentation [ **Lacto bacilli** ]
4. ----- developed Vaccines for the control of Cholera, anthrox and Rabies in man  
[ **Luis Pasteur** ]
5. ----- isolated the bacilli of anthrox and TB [ **Robert koch** ]
6. Robert koch was awarded the Nobel Prize in the year 1905 for on work -----  
[**Tuberculosis**]
7. -----to microbiology is the technique of "pure culture" of bacteria [ **Joseph Lister** ]
8. ----discovered a system for antiseptic surgery [ **Joseph Lister 1860** ]
9. The bacterial viruses are called [ **bacterio phages** ]
10. Smallern viruses like paraviruses may have -----genes [ **3 to 4** ]
11. The structure of nuclic acid in the virion may be either -----[ **Linear or Circular** ]
12. Tumour indusing viruses are called ----[ **Oncogenic virus** ]
13. -----Viruses are oncogenic RNA viruses [ **RNA Sarcomere or Rous sarcoma** ]
14. Rabies virus belongs to the -----family [ **Rhabdovirus** ]
15. The mortality rate form rabies is -----[ **100%** ]
16. Variola virus is called -----[ **Small Pox virus** ]
17. Hepatitis B virus is an enveloped virus with a double stranded -----[ **DNA** ]
18. ----- consists of purified Hb Ag ( Australian antigen) [ **HBV vaccine** ]
19. Gastroenteritis is caused by bacteria -----[ **Salmonella choleraesuis** ]
20. Plague is characterized by enlarge and inflamed lymph node [ **Bubonic** ]
21. -----Plague mortality rate is 100% in untreated cases [ **pneumonic** ]
22. ----- is caused by *Treponema pallidium* [ **Syphilis** ]
23. Gonorrhoeal infection in female in -----[ **Cervix** ]

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24. Pain during urination and a yellow discharge from the urethra of male are the symptoms of -----(**Gonorrhoea**)
25. -----is associated with diarrhoea in children. [**Giardia intestinalis**]
26. The symptom of black water fever is characteristic of malaria. [ **Falciparum**]
27. Amoebiasis is caused by the protozoa ----- [**Entamoeba histolytica**]
28. The pathogenic stage of Entamoeba -----[**Trophozoite**]
29. Trypanosoma gambiense causes -----[**African sleeping sickness**]
30. Parasitic infections which man acquires from animals are known as -----[**zoonoses**]
31. The first antibiotic penicillin was discovered by -----[**Alexander Fleming**]
32. The mode of action of antibiotic destroys the microbial cells-----and inhibits the growth of them -----[**bactericidal, Bacteriostatic**]
33. The more promising chemotherapeutic agent for treating viral diseases is the -----  
[ **Interferon**]
34. Amantadine and cycloguanosine are -----[**Antiviral drug**]
35. -----Causes profound immunodepression in humans. [ **HIV**]
36. ----- Viruses have the capacity to convert their RNA into DNA with help of reverse transcriptase. Hence it is called -----[**Retrovirus**]
37. HIV was isolated in 1983 by-----[**Luc Montagnier and Gallo**]
38. The envelope of HIV contains other proteins including some -----[ **HLA antigens**]
39. In HIV persons, an unusual cancer -----[**Kaposi Sarcoma**]
40. HIV confirmatory test is -----[**Western blot test**]
41. -----drugs are available to HIV patients [ **AZT azidothymidine, Zidovudine, Saquinavir**]
42. Plasmodium vector -----[**Anopheles female mosquito**]
43. The toxic substance -----Which are liberated from destructed RBC's due to malarial infection. [**Haemozoin**]
44. Malignant tertian or pernicious malaria caused by ---[ **Plasmodium falciparum**]

### IMMUNOLOGY

1. In immune system, Mucous membrane is -----barriers. [**Anatomical**]
2. In immune system HCl and tears are belongs to Macrophages. [**Monocytes**]
3. The most important phagocytes are the -----and ----- [**Macrophages, Neutrophils**]
4. In inflammatory barriers histamine and serotonin are released by ----- [**Damaged mast cells**]
5. The primary function of the thymus is the production of -----  
[**Thymic lymphocytes or T cells**]
6. B cells are matured in the -----[**Bone marrow**]
7. Cell mediated immunity is the responsibility of a sub group of T cells -----  
[**Cytotoxic lymphocytes**]
8. NK cells kill virus infected cells by creating -----lined pores in the plasma membrane of the target cells-----[**Perforin**]
9. -----immunity is involved in killing of cancer cells [**Cell mediated**]
10. The smaller and light chain of immunoglobulin-----[**L- Chain**]
11. The long and heavy chain of immunoglobulin-----[**H- Chain**]
12. Each molecule of immunoglobulin consists of ---- of polypeptide chains. [**Two pairs**]
13. Coating over bacteria to facilitate recognition and phagocytosis----- [**Opsonisation**]
14. Antibody mediated immunity created by -----[**B lymphocytes**]
15. Thymus, Bursa of Fabricius and Bone marrow belongs to -----lymphoid organs.  
[**central or primary**]
16. Thymus continues to grow till about the -----[**12<sup>th</sup> year**]

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17. Small lymphocytes and matured lymphocytes are present in -----and--- of thymus gland.[**Cortex; medulla**]
18. In the thymus, the lymphocytes acquired new surface antigen -----[**Thy antigen**]
19. The lymphocytes are destroyed locally except one percent in thymus by programmed cell death or -----[**apoptosis**]
20. In thymus -----hormone are 'educated' to lymphocytes become capable of mounting cell mediated immune response.[**Thymulin, thymosin, thymopoitin**]
21. In the human boy, totally about ---- lymph nodes are distributed. [**600**]
22. -----is the largest lymphoid organ [**Spleen**]
23. -----serve as the graveyard for effete (aged) RBCs [**Spleen**]
24. The mucosa is endowed with secretory ----- immunoglobulin [**IgA**]
25. The other name for antigen -----[**Immunogen**]
26. The part of the antibody molecule which makes contact with the antigen is termed the ----[**Paratope**]
27. The part of the antigen molecule that makes contact with the paratope is termed the -----[**Epitope**]
28. High variability in the variable region of H and L chains are called -----( **Hotspots**)
29. Immunoglobulins are -----[**glycoproteins**]
30. ----chains are similar in all classes of immunoglobulins [**L chains**]
31. Molecular weight of L chains and H chains are ----[ **25000 daltons; 50000 daltons**]
32. The replacement of a diseased organ by a transplant is called----- [**transplantation**]
33. A cluster of amino acid sequences on the antigen constituting a serious of epitopes -----[ **Antigenic determinant**]
34. Graft between (identical twins) syngeneic individuals ----- [**Isograft**]
35. Graft between members of the same species ( one human to another)----- [**Allograft**]
36. Organ transplanted from pig to human -----[**Xenograft**]
37. Skin graft from thigh to face in severely deformed case of burnt individuals ----- [**Autograft**]
38. A cluster of genes for skin grafts is known as ----[ **Major histocompatibility complex (MHC)**]
39. In man MHC is called -----[**HLA**]
40. ----- and ----- immunosuppressive drug giving to the Host prevent graft rejection [**cyclosporin ; steroid**]
41. Allergy involves mainly ----- antibodies and histamine [**IgE**]
42. An allergen may cause a sudden violent and fatal reaction In a sensitive individual -----[**Anaphylaxis**]
43. -----is caused by antibodies that attach the Myelin sheath of nerve cells. [**Multiple sclerosis**]
44. ----is characterized by a very low number of circulating thymocytes [**SCID**]
45. Insulin dependent diabetes is example for [**Autoimmune disease**]

#### **MODERN GENETICS**

1. ----- and -----opened up a new era of modern genetics. [**Drosophila, E. coli**]
2. Complete set of chromosomes are separated from a cell and the chromosomes are lined up in a ----[**Karyogram**]
3. The term Karyogram has now been replaced by another word called----[**Idiogram**]
4. The Karyological studies are usually made during -----division [**Mitosis**]
5. Karyotyping involves the culture of foetal cells found in a highly nutritive solution containing -----[**Phytohaemagglutinin**]
6. ---- stops mitosis at metaphase [**Colchicine**]
7. The 23 pairs of chromosomes in human are classified into -----[ **Seven groups**]
8. Acrocentric chromosomes are belongs to ---- groups [**D&G**]

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9. ---is the largest group containing chromosomes [**group C**]
10. The chromosomes 4 and 5 belong to the group classified by karyotyping  
-----(**Group B**)
11. The existence of mobile genetic elements -----[**Transposons**]
12. Transposons were visualized by the genetisit -----[**Barbara meclintock**]
13. -----is a fragment of DNA molicule which is to be enzymatically isolated and cloned.[ **Restriction endonucleus**]
14. Bacterial plasmid as -----[**cloning vectors**]
15. ----DNA can carry a foreign DNA fragment when inserted into it ,[ **cloning vector**]
16. A plasmid is a circular DNA with about ----- Nucleotides [ **200 –300 Molecule**]
17. ----- seems to be an efficient gene exchanging vehicle -----[**Plasmid**]
18. Enzyme ecognize specific DNA sequence which are called -----[**Palindome**]
19. In recombinant DNA technology – cut the DNA double helix. [ **Restriction endonucleases**]
20. 5' GAATTC 3' opposite base sequence ---- [ **3' CTTAAG 5'**]
21. The recombination of the two DNA is effected by the ---enzyme [ **DNA ligase**]
22. The first gene was cloned in 1973 by ---[**Herbert Bayer and Stanely Cohen**]
23. Genetically engineered bacteria are called -----[**Superbugs**]
24. The super bug was produced first by an Indian researcher -----[**Anand chakravarthy** ]
25. Most of genetic diseases in man are -----in nature.[**Congenetal**]
26. ----define the history of a character in a family [ **Pedigree chart**]
27. -----is a genetic syndrome by an autosomal mutant allele -----[ **HBs**]
28. -----is an erythroblastic anaemia [ **Thalassemia**]
29. The thalassemic children die at the age of -----[ **17 years**]
30. -----cuased by an autosomal dominant gene in human [ **Huntington chorea**]
31. The incidence of albinism in human has been reported to be from [ **1:5000 to 1: 25000**]
32. The enzyme thyrosinase converts -----into melanin in the melanocytes [ **DOPA dihydroxy phenyl alanine**]
33. ----- mutant gene is responsible for causes albinism [ **aa**]
34. The gene for Huntington chorea is located on chromo0some ----- [ **4**]
35. -----is an extremely rare inherited disease affecting children [ **SCID**]
36. The children suffering from SCID due to rapid death of all -----[ **WBC**]
37. SCID is all called -----[ **Bubble Boy Syndrome**]
38. The gene for SCID disease called ADA is located on chromosome -----[ **20**]
39. The location and composition of ---genes in human have been identified by sequencing the genome [ **30,000**]
40. Researchers have identified about -----different m-RNAs in human beings. [ **60,000**]
41. -----has produced a cloned sheep called Dally [ **Dr. Ian Wilmut**]
42. The uptake of genes by the cells is animals is called -----[ **Transfection**]
43. For the transfer of whole nuclei the cells are treated with -----and enucleated [ **Cytochalasin B**]
44. -----Therapy is prevent the genetic defects being inherited to children [ **Germ line cell gene**]
45. Persons with heterozygous genotype --- are said to be carriers [ **HbA Hbs**]
46. ----- are developed to read hundreds of bases in the DNA [ **Sequenaters**]
47. ----is a collection of DNA fragments which contains all the sequences of a single organism [ **DNA Library**]
48. ----and -----have developed the protein sequence databases [ **SIB, EBI**]
49. One of the computer graphic model of proteins is called -----[ **Glowing Coal**]

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### ENVIRONMENTAL SCIENCE

1. The human population is growing at a rate of -----per year.[90 million]
2. ----- studied the nature of population growth [Thomus Malthus]
3. The field of collecting, compiling and presenting information about population is called ---- [Domography]
4. -----is the primary cause for population growth during past 300 years [Declining mortality rate]
5. Death rate subtracted from birth rate gives the natural increase of a population ----- [growth rate]
6. -----includes immigration and emigration as well as births and deaths [Total growth rate]
7. The size of the population nearly quadrupled in the span of the [ 100 years] is called -----[Population explosion or Population Bomb or Population trap]
8. The average temperature of earth is about -----[59 F (15 C)]
9. The most abundant greenhouse gas is -----[Carbon dioxide]
10. -----traps 20 times more heat than Co<sub>2</sub> [Methane]
11. -----traps 300 times more heat than Co<sub>2</sub> [Nitrous Oxide]
12. In 2000, Scientists discovered an alarming increase in the level of a new gas called -----[Trifluoromethyl Sulphur penta fluoride]
13. Ozone gas is ----- [O<sub>3</sub> ]
14. The Ozone layer screens out the sun's harmful ----- [ UV radiation]
15. Ozone gas present in ----- [Stratosphere]
16. In the stratosphere Ozone is constantly being made by the action of Sunlight on -----[Oxygen]
17. Which of the following gases destroys ozone layer faster? (Chlorofluorocarbons and Hydrochlorofluorocarbons)
18. ----- can destroy stratosphere Ozone much faster than it is formed. [Chlorofluorocarbons, and hydrochlorofluorocarbons. [HCFC]
19. Ozone loss was first detected in the stratosphere over the ----- [Antarctic]
20. -----Permanent Storage facilities for military related wastes.[Land fills]
21. -----is used to dispose amounts of water carrying relatively small amounts of chemical wastes [Surface impoundments]
22. ----- are capable of degrading variety of toxic compounds and also degrade oil. [ Pseudomonas, [Super bug]
23. ----- period greater disaster wiped 2/3 of all marine species,[Permian]
24. ----- plays a vital role in tropical forests by pollinating tree. [Orchid bees]
25. There are around ----- hot spots identified from all over the world. [25]
26. Marine Biosphere reserve in Tamil Nadu -----[Gulf of Mannar Biosphere Reserve]
27. Hill Biosphere Reserve the ----- [Nilgiri Biosphere Reserve]
28. ----- is considered as a Biologists Paradise. [Gulf of Mannar Biosphere Reserve.]
29. Gulf of Mannar Biosphere encompasses ----- small islands the coast. [21]
30. Project Tiger programme was launched in -----[1973]
31. National Bureau of Plant Genetic Resources in ----- [New Delhi]
32. ----- was probably the first human energy technology. [ Fire]
33. India's first power plant generating electricity from Ocean energy is commissioned at -----[Vizhinjam fishing harbour in Karala]
34. Each year the earth receives from the sun an enormous total of ----- energy.[5x10<sup>24</sup> k.cals]
35. Source of power for future -----[Hydrogen]
36. -----is the only energy source, known to be economically feasible in present and for near future[Nuclear energy]

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37. Which of the following provides about 95% of all commercial energy in the world?  
(**petroleum, natural gas and coal**)
38. -----has the highest mass energy content [ **Hydrogen**]
39. Nuclear disaster accident at former U.S.S.R. -----[**Chernobyl**]
40. -----used in fabricating thin film solar cells, is both poisonous and a possible carcinogen. [ **Cadmium**]
41. -----,-----,----- can cause acid rain. [**NO ,CO<sub>2</sub>,SO<sub>2</sub>**]
42. Of the total water available on earth only ----- in fresh water. [ **3%** ]
43. ----- countries depend on desalination process for getting fresh water. [**Dubai, Oman, Bahrain**]
44. The common methods of desalination are -----[**distillation or Reverse osmosis**]
45. The ----- leads the nation in implementing rain water harvesting programme. [**Tamil Nadu**]
46. Seeding clouds with dry ice or -----particles sometimes can initiate rain  
[ **Potassium iodide**]

### APPLIED BIOLOGY

1. Among mammals cattle belong to the genus -----[**Bos**]
2. In India at present there are -----well defined breeds of cattle . [**26**]
3. Example for Dual purpose -----[**Haryana, Ongole, Tharparker, Kankrej**]
4. -----cows are hardy and have high degree of resistant to heat and ticks. [**Sindhi**]
5. Yields as high milk production as ---- per lactation season. [**5,443 kg per**]
6. -----originated from Coimbatore district . [ **Kangayam**]
7. European breeds are----- [ **Ayreshire, Jersey, Brownswiss, Holstein Friesean, Guernsy and Red Dane**]
8. Exotic breeds ----- have good udders with large teats. [**Jersey**]
9. Jersey milk has a characteristic yellow colour because of high -----content. [**carotene**]
10. Anthrax , a bacterial disease is due to -----[**B anthracis**]
11. In cattles, high temperature, swelling of the neck, throat, flanks and lumbar regions are symptoms of [**Anthrax**]
12. Eruptions on skin and udder and teats developing into vesicles ,pustules and scabs are the symptom of ----- [ **Cow pox**]
- 13.- ---- is due to inability of the animal to assimilate calcium from the feed.[ **Milk fever**]
14. Feeding jaffery along with lime water is one of the first aid measure for -----[**Milk fever**]
15. American breeds -----[**Rhode island reds, plymoth rock, New Hampshire and Wyandotte**]
16. Asiatic breeds -----[**Brahma, Cochin, Langshan**]
17. Peacomb is one of impotent breed character of -----[**Brahma**]
18. Presence of White plumage and Pink coloured earlobes are the characters of the breed-----[**English breeds Sussex, Orpington, Australorp and Corinsh**]
19. The fowls of ----- are non-sitters. [**Mediterranean breeds**]
20. -----breeds is economically important and preferred in commercial forms.[**Leghorn**]
21. The common country hen of India is known as -----[**Desi**]
22. -----is noted for its ugnacity and excellent sitters.[ **Aseel**]
23. The fully formed bir emerges out of egg after a hatching period of ----days [**21 –22**]
24. The hatched chicks are kept inside the incubator at -- temperature for 3 days.[ **33 C**]
25. During brooding, Minimum --- of floor space per chickens is to be provided.[**55sq.cm**]
26. Milk fish is -----[ **Chanos chanos**]
27. The area percentage of Nursery pond is -----[**3%**]
28. The standard combination of NPK as -----is generally recommended for freshwater ponds.[**18 :10 : 4**]

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29. -----has a deep body with prominent head, large upturned mouth, non-fringed lips. [**Catla**]
30. Of all the carps, ----is considered as the tastiest fish.[**Labeo rohita (Rhou)**]
31. -----are air-breathing, fishes as they are capable of directly breathing atmospheric air [ **Catfishes (Keluthi)**]
32. An exotic fish introduced in India from East Coast of Africa-----[**Tilapia**]
33. Constant elevation of blood pressure is known as -----[**Hypertension**]
34. The counting of blood cells after proper dilution is known as -----[**Haemocytometry**]
35. RBC diluting fluid is -----[**Hayem's solution**]
36. WBC diluting fluid is -----[**Turk's or Toisson solution**]
37. -----blood is used in blood cells counting.[**Venous**]
38. The normal number of WBC in adults is about-----[**4,500 – 11,000**]
39. An increased number of WBC, and RBC are called-----[**Leukemia: Ploicythemia**]
40. The surplus glucose appears in urine and this condition is known as -----[**glycosuria**]
41. ----- is considered a superior method for identification of urine sugars.  
[**Thin layer chromatography**]
42. -----is a record of the electric potential changes that occur in the heart during the cardiac cycle[**ECG**]
43. The work of -----lead to development of Modern Electrocardiography [**Einthoven**]
44. In ECG, ----wave is a guide to the activity of Atria. [ **P wave**]
45. Lot of diagnostic information can be gained from alteration in the -----[**QRS complex**]
46. In ECG, the duratioin of the QRS complex is about -----second [0.08]
47. Computed Tomogrgraphy is based on the -----[**X –ray principle**]
48. The cattle disease Rinderpest is a ----- disease. [**Viral**]
49. Dairy purpose cow -----[**Sahiwal, Sindhi, Gir, Umblachery, Karan swiss**]
50. Drought purpose cow----- [ **Amritmahal, Kangayam, Malvi, Siri, Hallikar**]
51. ----- is a fast growing species among the Indian major carps.[ **Catla catla**]
52. The head is usually long with a bulging forehead and a prominent furrow in the middle. [**Hallikar**]
53. -----is a Mediterranean breeds and it originated from Spain.[**Minorca**]
54. -----Female keeps the fertilized eggs guarded in its mouth. [**Tilapia**]
55. The -----also make it possible to hear the foetal sounds in mother's womb.  
[**Electronic stethoscopes**]

#### THEORIES OF EVOLUTION

1. An initiation for evolutionary thought process was well provided by -----[**Lamarck**]
2. Lamarck published his book titled -----[**Philosophie Zoologique**]
3. The theory of evolution as proposed by Lamarck is popularly known as the -----  
[**Theory of inheritance of acquired characters'**]
4. Lamarck explained his first law with example of -----evolution[ **Horse**]
5. The third law of Lamarck is -----[**Law of use and disuse**]
6. -----for the first time segregated germplasm from somatoplasm [**Weismann**]
7. -----tried to prove that 'is an learning is an acquired character' through experiments on rats.  
[**McDougall**]
8. The theory of ----is considered on par with Newton's law of gravitation and Einstein's theory of relativity. [**Natural selection**]
9. Darwinism is also called as --[**Natural selection**]
10. While Darwin prepared his work for publication, a similar idea to explain evolution was proposed by another naturalist, -----[**Alfred Russel Wallace**]
11. Darwin believed in the theory of -----[ **Pangenesis**]
12. -----in his book "Process of organic evolution"suggests five basic processes essential for evolution.[**G.L. Stebbins**]
13. The collection of genes in a population is referred to as the----- [ '**gene pool'**]

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14. A fundamental idea in the form of a law to understand population genetics was-----  
**[Hardy- Weinberg law]**
15. Genetic drift was developed by ----- **[Sewall Wright]**
16. ----- is concerned with the gene frequency of a reproducing small population.  
**[Genetic drift or Swell Wright Effect]**
17. Genetic drift is referred to as -----**[ Bottleneck effect]**
18. Example for allopatric species-----**[Frogs in India and Srilanka]**
19. -----is a classical example for polymorphism -----**[Sickle –cell anaemia]**
20. Which is considered as raw materials for evolution? **(gene mutation)**
21. The factor that enriches the genepool with new modified genes-----**[Mutation]**
22. -----Selection is the phenotypic features coincide with normal environmental situations. **[Stabilizing ]**
23. ----- selection operates in response to gradual changes in the environment **[Directional]**
24. -----Selection pressure may favour the existence of morethan one phenotype in a population. **[Distructive]**
25. Sickle-cell anaemia more frequent among -----**[American blacks]**

**OTHER SOME QUESTIONS in BIO-ZOOLOGY....**

1. In 1070, -----molecules of CO<sub>2</sub> per million molecules of air. **(281)**
2. Today atmospheric carbon- dioxide concentrations are ----- a 31% increase.**(368 ppm)**
3. The major regions of population concentration are -----**(East Asian region, south asian region and west European region)**
4. The largest populated areas ----- **(East Asian region)**
5. -----consists one fourth of the total population of the world **(East Asian region)**
6. The second largest population concentration area-----**( South asian region)**
7. South asian countries according for -----percent of the global population.**(20)**
8. which has third largest population concentration area-----**( West European region)**
9. In early eighties where ozone level dropped 30%-----**(Antarctica)**
10. -----was the prime suspect for causing ozone depletion (CFC)
11. Like Antarctica similar hole was discovered over the thickly populated -----**(Northern hemisphere)**
12. An international agreement made in 1987 at montreal is called ----**(Montreal protocol)**
13. An international agreement made in 1987 at montreal organized by **( 34 countries)**
14. Who announced that ozone hole was 13 times wider 1991,than in had been in 1981 **(Japanes scientists)**
15. In which conference the developed countries agreed to 100% ban of CFCs by 2000 A.D.**(London)**
16. Which was also found in active form in the atmosphere -----**(Chlorine)**
17. whose experiment findings revealed that ozone layer was reduced by 15 – 20% ---**(European Arctic Stratosphere Ozone experiment in Sweden)**
18. Project Tiger programme was launched in --**(1973)**
19. Project Tiger started with -----tiger reserves in different habitats. **(9)**
20. Today there are ----Tiger reserves are under Project Tiger **(23)**

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**ALL THE BEST OF LUCK**



**mz;zh mwptfk; Nky;epiyg;gs;sp> Nghr;rk;gs;sp  
caphpay; tpyq;fpaypy; NkYk; rpy tpdhf;fs;.....**

1. 1970 ஆம் ஆண்டில் ஒரு மில்லியன் காற்று மூலக்கூறில் உள்ள CO<sub>2</sub> –d; msT ---(**281ppm**)
2. ,d;W tspkz;lyj;jpy; fhzg;gLk; CO<sub>2</sub> –d; msT ---(**368ppm**)**31% mjpgfhpg;G**)
3. kf;fl;njhif mjpfk; nfhz;l ,lq;fs; ----( **fpof;F Mrpag;gFjp> njw;F Mrpag;gFjp>Nkw;F INuhg;gpa gFjp**)
4. kpf mjpfstpy; kf;fl;njhif nfhz;l gFjp -----( **fpof;F Mrpag;gFjp**)
5. cyfpd; kf;fl;njhifapy; ehd;fpy; xUgFjp nfhz;l gFjp ----(**fpof;F Mrpag;gFjp**)
6. cyfpd; kf;fl;njhifapy; 20% nfhz;l gFjp ----( **njw;fhrpag;gFjp**)
7. cyfstpy; ,uz;lhtjhf kf;fl;njhif nfhz;Ls;s gFjp ----(**njw;fhrpa gFjp**)
8. cyfpd; %d;whtJ nghpa kf;fl;njhif nfhz;l gFjp -----(**Nkw;F INuhg;gpa gFjp**)
9. 1980-fspd; Jtf;jj;py; mwptpayhh; nghpa XNrh; nghj;jy; vq;F fz;Lgpb;fg;gl;lj----
10. 30% ஓசோன் குறைவிற்கு காரணமாக கருதப்பட்ட வாயு ----(**குளோரோ புரூரோ கார்பன் CSF**)
11. mz;lhh;bf;fh nghj;jiy Nghd;Nw mLj;J fz;lwpag;gl;l nghj;jy; -----(**tlgFjp (tlf;F INuhg;gh> mnkhp;fh**)
12. 1987 –y; khz;l;hpahypy; 34 ehLfs; gq;F nfhz;l xg;ge;jk; ---(**khz;l;hpahy; xg;ge;jk;**)
13. ve;j xg;ge;jk; %yk; 20 –k; E}w;whz;bd; ,Wjpapy; CSF gad;ghl;il 50% Fiwg;gJ vd;w cld;ghL vw;gLj;jg;gl;lj (**khz;l;hpahy; xg;ge;jk;**)
14. 1981 –y; ,Ue;jijtpl 1991-y; XNrh; nghj;jy; 13 klq;Ffs; nghpjhfp tpl;lja; mwptpj;jth;fs; ;-----(**lg;ghd; mwptpayhh;**)

15. -----y; ele;jkhehl;by; tsUk; ehLfs; 2000-Mk; Mz;by; CFC gad;ghl;bw;F 100% jil tpjpg;gjhf xj;Jf;nfhz;ld. **(yz;ld;)**
16. ve;j Ma;T XNrhd; glyk; 15-20% Fiwe;Js;sij njhptpj;jJ **(INuhg;gpa Mh;f;bf; ];l;Nul;NIh];gpah; XNrhd; Nrhjid epiyak;)**
17. XNrhd; glyj;jpy; nray; epiyapYs;s ----- thA fhzg;gLfpwJ. **(FNshhpd;)**
18. Gypj;jpl;lk; ve;j Mz;by; Jtq;fpaJ ----- **(1973)**
19. Jtf;j;jpy; vj;jid Gyp Gfyplq;fs; Vw;gLj;jg;gl;lJ **(9)**
20. jw;NghJ ehL KOtJk; vj;jid Gyp Gfyplq;fs; cs;sJ-----**(23)**

**mz;zh mwptfk; Nky;epiyg;gs;sp> Nghr;rk;gs;sp**

**caphpay; tpyq;fpaypy; NkYk; rpy tpdhf;fs;.....**

21. 1970 ஆம் ஆண்டில் ஒரு மில்லியன் காற்று மூலக்கூறில் உள்ள CO<sub>2</sub> -d; msT ---**(281ppm)**
22. ,d;W tspkz;lyj;jpy; fhzg;gLk; CO<sub>2</sub> -d; msT ---**((368ppm)31% mjpgfpg;G)**
23. kf;fl;njhif mjpfk; nfhz;l ,lq;fs; ----**(fpof;F Mrpag;gFjp> njw;F Mrpag;gFjp>Nkw;F INuhg;gpa gFjp)**
24. kpf mjpfstpy; kf;fl;njhif nfhz;l gFjp -----**( fpof;F Mrpag;gFjp)**
25. cyfpd; kf;fl;njhifapy; ehd;fpy; xUgFjp nfhz;l gFjp ----**(( fpof;F Mrpag;gFjp)**
26. cyfpd; kf;fl;njhifapy; 20% nfhz;l gFjp ----**( njw;fhrpag;gFjp)**
27. cyfstpy; ,uz;lhtjhf kf;fl;njhif nfhz;Ls;s gFjp ----**(njw;fhrpa gFjp)**
28. cyfpd; %d;whtJ nghpa kf;fl;njhif nfhz;l gFjp ----**(Nkw;F INuhg;gpa gFjp)**
29. 1980-fspd; Jtf;j;jpy; mwptpayhh; nghpa XNrhd; nghj;jy; vq;F fz;Lgpbf;fg;gl;lJ----
30. 30% ஓசோன் குறைவிற்கு காரணமாக கருதப்பட்ட வாயு ----**(குளோரோ புளூரோ கார்பன் CSF)**
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33. ve;j xg;ge;jk; %yk; 20 -k; E}w;whz;bd; ,Wjpapy; CSF gad;ghl;il 50% Fiwg;gj vd;w cld;ghL vw;gLj;jg;gl;lJ **(khz;l;hpahy; xg;ge;jk;)**
34. 1981 -y; ,Ue;jjtpl 1991-y; XNrhd; nghj;jy; 13 klq;Ffs; nghpjhfpl;l;ha; mwptpj;jth;fs;-----**(lg;ghd; mwptpayhh;)**
35. -----y; ele;jkhehl;by; tsUk; ehLfs; 2000-Mk; Mz;by; CFC gad;ghl;bw;F 100% jil tpjpg;gjhf xj;Jf;nfhz;ld. **(yz;ld;)**
36. ve;j Ma;T XNrhd; glyk; 15-20% Fiwe;Js;sij njhptpj;jJ **(INuhg;gpa Mh;f;bf; ];l;Nul;NIh];gpah; XNrhd; Nrhjid epiyak;)**
37. XNrhd; glyj;jpy; nray; epiyapYs;s ----- thA fhzg;gLfpwJ. **(FNshhpd;)**
38. Gypj;jpl;lk; ve;j Mz;by; Jtq;fpaJ ----- **(1973)**
39. Jtf;j;jpy; vj;jid Gyp Gfyplq;fs; Vw;gLj;jg;gl;lJ **(9)**
40. jw;NghJ ehL KOtJk; vj;jid Gyp Gfyplq;fs; cs;sJ-----**(23)**

