

Ministry of Higher Education
& Scientific Research
University of Baghdad
College of Science
Department of Biology



وزارة التعليم العالي و البحث العلمي
جامعة بغداد - كلية العلوم
قسم علوم الحياة

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السيد معاون العميد للشؤون العلمية والدراسات العليا المحترم
م / اسئلة الامتحان التنافسي

تحية طيبة ...

اشارة لكتابكم المرقم بالعدد ع/٢٢٤٢ في ٢٠١٦/٩/٥ نرودكم بنسخة من اسئلة الامتحان التنافسي للتقديم للدراسات العليا للعام الدراسي ٢٠١٦-٢٠١٧ (الماجستير - الدكتوراه) ولجميع التخصصات في قسمنا بنسخة ورقية وقرص مدمج (CD).

مع التقدير

المرفقات:-

- نسخة ورقية
- قرص مدمج (CD)

أ.م.د سمير عبد الامير علش

رئيس قسم علوم الحياة

٢٠١٦ / ١٠ / ٢

السيد محمد هادي
للاجراء اللازم
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د. وليا
ايثار الملا
١٠ / ١٥





NO.

Date.

العدد / ٤٤٤

التاريخ: ١٥/٩/٢٠١٦

الى / قسم علوم الحياة

الى / الاقسام العلمية كافة

م / اسئلة الامتحان التنافسي

تحية طيبة :

تفضلكم بتزويدنا بنسخة من اسئلة الامتحان التنافسي (الكفاءة العلمية) للتقديم للدراسات العليا للعام الدراسي ٢٠١٦/٢٠١٧ وللدراسات (الدبلوم العالي - الماجستير - الدكتوراه) ولجميع التخصصات العلمية في اقسامكم متضمنة نسخ ورقية وعلى قرص مدمج (CD).

لنتفضل بالاطلاع ... وارسالها بالسرعة الممكنة مع التقدير .

أ.م.د. علي مكي حسين

معاون العميد للشؤون العلمية والدراسات العليا

١٥ / ٩ / ٢٠١٦

د. ليثا
لجنة
السيد معاون العميد المحترم
للتفضل بالاطلاع مع التقدير
٩/١٥/٢٠١٦

نسخة منه الى /

- مكتب السيد العميد المحترم / للتفضل لاطلاع السيد العميد المحترم ... مع التقدير .
- السيد معاون العميد للشؤون العلمية والدراسات العليا / للتفضل بالاطلاع ... مع التقدير .
- الدراسات العليا / للحفاظ .

محمد مصطفى ٢٠١٦/٩/٥



Choose the correct answer (MCQ)

- Q1/ Plant cell wall mainly composed of**
a- cellulose b-starch c-protein d-lipid
- Q2/during metaphase mitosis chromosomes**
a- undergo coiling b-move towards the poles c-line up at the equator d-break and disintegrate
- Q3/ Cell theory proposes that all living cells arise from**
a. Fossils b-Plant cells c-Pre-existing cells d-New cells
- Q4/ The movement of molecule down its concentration gradient with the aid of carrier protein is called**
a. Active transport b-Facilitated transport c-Diffusion d- Osmosis
- Q5/ During normal exhalation, which of the following muscles contract?**
a. Diaphragm, external intercostals b. Internal intercostals, transversus thoracis c-None; the muscles of inhalation relax in normal exhalation d. Abdominals
- Q6/ Blood flows out of the ventricles when**
a. The atrioventricular valves are open b. The semilunar valves are open
c. The bicuspid valves are open d. The mitral valves are closed
- Q7/ Bile is produced by the and stored by the until it drains into the**
a. Gall bladder, liver, duodenum b. Pancreas, liver, gall bladder c. Liver, gall bladder, duodenum
d. Liver, gall bladder, stomach
- Q8/ Blood pressure is usually expressed as**
a. Diastolic pressure over systolic pressure b. Systolic pressure over diastolic pressure
c. Diastolic pressure over pulse pressure d. Pulse pressure over diastolic pressure
- Q9/ The following are examples of lymphatic vessels and tissues, except:**
a. Thoracic duct b. Thyroid c. Spleen d. Thymus
- Q10/ The process of moving energy from one chemical form (glucose) into another (ATP) is called**
a. Breathing b. External respiration c. Internal respiration d. Cellular respiration
- Q11/----- animals which are capable of maintaining a relatively constant body temperature in spite of great variations of external temperature.**
A- Poikilothermic. B- Homeothermic C- Ectothermic. D- Heterothermic
- Q12/ Aldosterone is secreted by the adrenal cortex in response to-----**
A- high blood potassium level. B- low blood sodium level. C- decrease in blood pressure
D- All of the above.
- Q13/ when the nerve is stimulated, the polarized state is altered and the interior becomes positive; this is called-----**
A- Depolarization phase B- Repolarization phase C- Polarization phase D- None of the above
- Q14/ during muscle contraction ----- remains constant.**
A- Z discs B- A band C- H zone D- I band
- Q15/ The glomerular filtration, takes place in -----**
A- Renal corpuscles B- Distal convoluted tubules C- Proximal convoluted tubules D- All of the above
- Q16/ when threshold stimulus is applied to the cell membrane, the permeability for -----ions increases, and leads to depolarization.**
a- Na^+ b- K^+ c- Cl^- d- A and B
- Q17/ The hormone which is synthesized in apical portion of stems and roots is -----**
a- Ethylene b- Abscissic acid c- Gibberellin

- Q18/ The first compound produced after CO₂ fixation in C₄ plant
 a- Ribulosediphosphate carboxylase b- Phosphoenol pyruvate carboxylase c- invrtase
- Q19/ Water potential of plant cell is determined by
 a- Osmotic potential b- Hydrostatic pressure c- Wall pressure
- Q20/ Plant hormones differ from animal hormones in that
 a- plant hormones are made in tissues specialized for hormone production
 b- plant hormones do not have definite target areas
 c- No different between them
- Q21/ ----- increases the plasticity of plant cell walls
 a- CytoKinins b- Auxin andCytokinins c- Gibberellin and Auxin
- Q22/ ATP produced by respiration is called
 a- oxidation phosphorylation b- photophosphorylation c- phosphorylation
- Q23/ The increase of K⁺ ions concentration increases the osmotic concentration of guard cells, thus
 a- Lead to stomata opening b- Lead to closing of stomata c- Increase absorption of stomata
- Q24/ Lyophilic
 a- decreased plant growth b- liquid loving water c- have almost some viscosity as than medium
- Q25/ Photorespiration yields -----
 a- NADH+H b- FADH₂ c- NADPH₂
- Q26/Xanthophylls are occurred in
 a- Chloroplast b- Cytoplasm c- Mitochondria
- Q27/ ----- (1804) is the first scientist who postulates the correct photosynthetic equation
 a- Hill b- Ruben c- De Saussure
- Q28/ One of The cytokinin Functions is -----
 a- Prevent leaf abscission b- Morphogenesis c- Breaking bud dormancy
-
- Q29/ The five-kingdom system of classification was set up by
 a- Louis Pasteur b- Robert Whittaker c- Robert Koch d- Masaki Ogata
- Q30/ Which of these is a trace element for bacteria
 a- Mg²⁺ b- Na⁺ c- Ca²⁺ d- Mn²⁺
- Q31/ Bacterial plasma membrane is composed of
 a) Single layer of phospholipid. b) double layer of phospholipid. c) singl layer of proteins
 d) peptidoglycan.
- Q32/ The characteristic growth curve of bacteria growth is composed of
 a) Two phases. b) Three phases. c) Four phases. d) Five phases.
-
- Q33/ A group of organisms that all belong to the same species and live in a given area is called a (n)...
- A. Community B. Colony C. Population D. Ecosystem
- Q34/ A population is correctly defined as having which of the following characteristics?
 A. inhabiting the same general area B. individuals belonging to the same species
 C. possessing a constant and uniform density and dispersion
- Q35/ A community is several species of animals interacting, while a population is
 A. members of one species in an area. B. the biotic and abiotic elements of an area.
 C. the nonliving elements of a habitat. D. a single organism
- Q36/ The sequence of energy flow through a food chain is
 A . primary consumers- producers- higher order consumers B- producers- higher order consumers- primary consumers
 C. higher order consumers- primary consumers- producers. D. primary consumers- higher order consumers- producers.
 E. producers- primary consumers- higher order consumers.
- Q37/ Biotic components of ecosystems includes -----
 A. Producers B. Consumers C. Decomposers D. all the above
- Q38/ A biotic components of ecosystems includes-----
 A. Producers B. Consumers C. Physical and chemical properties D. lithosphere E. Solar energy
- Q39/ According to its persistence which of following considered more dangerous ,
 A. DDT B. chlordane C. picloram D. 2,4-D

Q40/ Greenhouse effect refers to

- A-ability of atmosphere to retain water vapor b-ability of certain atmospheric gases to trap heat and keep the planet relatively warm C-ability of cloud to scatter electromagnetic radiation
D. none of the above

Q41/ What is the harm from the depletion of Earth's ozone layer.

- A. The average temperature of earth's surface will increase gradually
B. The oxygen content of the atmosphere will decrease
C. Increased amount of Ultra violet radiation will reach earth's surface
D. Sea levels will rise as the polar ice caps will gradually melt

Q42/ The total damage or risk is directly proportional to the accumulated exposure, this statement related to.

- A. Linear effect B. Threshold effect C. synergism D. pollution response E. both A and D

Q43/ The pollutant responsible for ozone holes is -----

- A. CO₂ B. NO_x C. CO D. CFC E. Each the previous F. only B and D

Q44/ According to the concept of Biological discrimination, which one of the following will contain the maximum amount of insecticide residues

- A. Soil B. Stem of plant C. Root of plant D. leaves of plant

Q45/- Avery & Macleod has done their experiments in

- A.1928 B. 1944 C.1946

Q46/Initiation codon of protein synthesis

- a- AUG b- AAG c- ATC

Q47/RNA in Eukaryotic cell have

- a- Palindromes b- Poly-A-tail c- Poly -T-tail

Q48/None functional gene like

- a- Histones b- Alu-gene c- Pseudogenes

Q49/ The partial hydrolysis of DNA give

- A. deoxy ribose B. Purines & Pyrimidines C. Nucleotides

Q50/The mitochondrial DNA are :

- a- Single linear strand b-double circular DNA c-double linear strand

Q51/Among types of mutation occurred to genes is

- a- Transformation b-transgenic c- transition

Q52/ Frame shift mutation mean

- a- Changes in the reading frame of the gene b- Change in the direction of polymerase.
c-Change in repairing of DNA segments

Q53/Fragment of DNA 201 bp in length, the number of the phosphodiester bound is :

- a- 202 b- 200 c- 201

Q54/ For example for invisible mutation is:

- a- Point mutation b- conditional mutant c- suppressor mutants

Q55/ Nitrous oxide, chemical compound converts the amino group of bases into keto group through:

- a- Splicing process b- deamination oxidative c- methelation step.

Q56/ Thymin dimer is mean:

- a- T=T in same strand b- T=T in opposite strand c- T=T unwind strands

Q57/ The most important in N₂-fixation is

- a- Heterocytes b- N₂-ase enzyme c- Nitrogen

Q58/ Pro Chlorophyta are:-

- a- Procaryotic b- Eucaryotic c- Others

Q59/ Cyanophyta are

- a- non- motile b- motile c- Others

Q60/ Zygnema has chloroplast -----

- a-star shaped b- reticular shaped c- spiral shaped

Answer the following questions briefly (Short answers)

Q1/ What is the structure and function of the cell membrane?

Q2/ In anaerobic respiration, the electron acceptor is ?

Q3/ The gaps in the myelin sheath are called?

Q4/ The exchange of gases between alveoli and their surrounding capillaries are called?

Q5/ Pancreas produces an enzyme called which is digests the fats?

Q6/ Hydrochloric acid is produced by within the stomach ?

Q7/ Renin is needed to stimulate the secretion of -----.

Q8/ The resting membrane potential (RMP) indicates the resting state of cell, also called state of -----

Q9/ -----Is a plasma protein that important in blood clotting.

A- Globulin. B- Fibrinogen. C - Albumin. D -None of the above

Q10/ when the fiber is at rest, the ----- block active sites for myosin on actin.

Q11/ Chlorophyll ----- exists in brown algae.

Q12/ One function of----- pigment is to protect chlorophylls against photo oxidation in excessive light

Q13/ ----- Is the process by which the plant can produce ATP in the presence of light and it happens in the plastids and through the light reactions.

Q14/ ----- is a proteinous compound contains two Cu atoms and responsible for receiving the electrons from cytochrome f and transfer them to pigment system 1 in light reaction.

Q15/ Colloidal system is made up of -----

Q16/ One function of water is -----

Q17/ Because of the presence of -----, the plant can maintain a higher ionic concentration in the xylem than in -----

Q18/ Two functions of transpiration are: ----- and -----

Q19/ Mention the differences between pili and flagella?

Q20/ What is the meaning of microbial cell death?

Q21/ Define the term Ecology

Q22/ What is the difference between Autecology and Synecology

Q23/ What is the difference between food chain and food web

Q24/ list the three kinds of ecological pyramids

Q25/ What do we mean by Ultra-violet radiation (UVR)

Q26/ Classify the pollutants according to its effect?

Q27/ SO₂ mass in the atmosphere are so small compared to annual emissions by humans. Give the reason?

Q28/ The decreasing of Oxygen in water led to

Q29/ Why proteins are not directly translated from DNA?

Q30/ What are the roles of histones in the assembly of chromosomes?

Q31/ Define: open reading frame?

Q32/ Give example for : Restriction enzymes , Multigen families ,tertiary structure of proteins

Q33/ Define the plasmids and mention their essential roles?

Q34/ Mention the main differences between stringent plasmid and relaxed plasmids?

Q35/ What is the main different between transcription and replication?

Q36/ Mention the role of sigma factor.

Q37/ Scientists believed that higher plants developed from Chlorophyta?

Q38/ Ectocarpin produced by Ectocarpus female gametes?

Q39/ Algae branching called false branching?

Q40/ Diatoms are used to be bioindicators?