

COMBINED STUDENT SCORE REPORT BY ID (PUBLIC) 03/24/2003

INSTRUCTOR: LOEBLICH

BIOL 1432-07576, 2ND MIDTERM

Grade No. w/ 1
 17-22 A = 17
 15-16 B = 45
 12-14 C = 47
 9-11 D = 11
 0-8 F = 11

Total Students = 111

ID	Total	ID	Total
2572	7	2142	18
2168	8	2143	14
2789	13	2145	11
2147	8	2149	11
2336	16	2150	13
2295	14	2151	13
2115	9	2164	16
2906	14	2166	20
2170	11	2271	13
2648	14	2273	6
2051	13	2278	15
2019	13	2279	6
2053	14	2291	14
2055	17	2296	19
2063	16	2298	17
2699	11	2305	17
2001	13	2335	18
2003	10	2338	16
2005	7	2412	15
2011	13	2418	15
2015	12	2501	13
2017	15	2508	12
2021	18	2592	14
2023	14	2601	13
2025	14	2634	12
2026	12	2645	14
2028	15	2649	7
2031	12	2701	15
2033	16	2704	15
2045	13	2708	6
2049	17	2710	18
2058	14	2711	17
2059	15	2713	15
2061	12	2721	14
2065	11	2725	13
2067	14	2790	13
2069	13	2791	16
2071	13	2795	12
2075	15	2801	14
2087	17	2803	14
2088	8	2804	16
2091	13	2806	16
2092	7	2810	18
2093	16	2811	10
2098	12	2901	15
2111	12	2905	13
2113	13	2989	16
2116	17	2990	14
2117	15	2991	10
2119	4	2992	10
2121	13	2995	16
2131	17	2281	17
		2799	10
		2582	12
		2339	14
		2047	17

Score	Frequency	Graph
4	1	I -
5	0	I
6	3	I - - -
7	4	I - - - -
8	3	I - - -
9	1	I -
10	5	I - - - -
11	5	I - - - -
12	10	I - - - - -
13	19	I - - - - -
14	18	I - - - - -
15	13	I - - - - -
16	12	I - - - - -
17	10	I - - - - -
18	5	I - - - -
19	1	I -
20	1	I -

Test Minimum = 4
 Test Maximum = 20
 Test Range = 17
 Test Mean = 13.45
 Standard Error in Mean = 0.295
 Test Variance = 9.581
 Test Standard Deviation = 3.095
 Test Skewness = -0.746
 Kuder-Richardson 21 Reliability = 0.058
 Standard Error in Measurement = 3.004
 Kurtosis of Test = 0.534

mode
 mean 13.45
 median
 B
 A n=111

53.8%

3/24/03 2nd midterm.

First letter on test is "W"

SIDE 1

NAME (Last, First, M.I.)

[illegible]

16

GENERAL PURPOSE - NCS®- ANSWER SHEET

SEE IMPORTANT MARKING INSTRUCTIONS ON SIDE 2

1	A	B	C	D	E	F	G	H	I	J	11	A	B	C	D	E	F	G	H	I	J	21	A	B	C	D	E	F	G	H	I	J
1	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	21	1	2	3	4	5	6	7	8	9	10
2	A	B	C	D	E	F	G	H	I	J	12	A	B	C	D	E	F	G	H	I	J	22	A	B	C	D	E	F	G	H	I	J
2	1	2	3	4	5	6	7	8	9	10	12	1	2	3	4	5	6	7	8	9	10	22	1	2	3	4	5	6	7	8	9	10
3	A	B	C	D	E	F	G	H	I	J	13	A	B	C	D	E	F	G	H	I	J	23	A	B	C	D	E	F	G	H	I	J
3	1	2	3	4	5	6	7	8	9	10	13	1	2	3	4	5	6	7	8	9	10	23	1	2	3	4	5	6	7	8	9	10
4	A	B	C	D	E	F	G	H	I	J	14	A	B	C	D	E	F	G	H	I	J	24	A	B	C	D	E	F	G	H	I	J
4	1	2	3	4	5	6	7	8	9	10	14	1	2	3	4	5	6	7	8	9	10	24	1	2	3	4	5	6	7	8	9	10
5	A	B	C	D	E	F	G	H	I	J	15	A	B	C	D	E	F	G	H	I	J	25	A	B	C	D	E	F	G	H	I	J
5	1	2	3	4	5	6	7	8	9	10	15	1	2	3	4	5	6	7	8	9	10	25	1	2	3	4	5	6	7	8	9	10
6	A	B	C	D	E	F	G	H	I	J	16	A	B	C	D	E	F	G	H	I	J	26	A	B	C	D	E	F	G	H	I	J
6	1	2	3	4	5	6	7	8	9	10	16	1	2	3	4	5	6	7	8	9	10	26	1	2	3	4	5	6	7	8	9	10
7	A	B	C	D	E	F	G	H	I	J	17	A	B	C	D	E	F	G	H	I	J	27	A	B	C	D	E	F	G	H	I	J
7	1	2	3	4	5	6	7	8	9	10	17	1	2	3	4	5	6	7	8	9	10	27	1	2	3	4	5	6	7	8	9	10
8	A	B	C	D	E	F	G	H	I	J	18	A	B	C	D	E	F	G	H	I	J	28	A	B	C	D	E	F	G	H	I	J
8	1	2	3	4	5	6	7	8	9	10	18	1	2	3	4	5	6	7	8	9	10	28	1	2	3	4	5	6	7	8	9	10
9	A	B	C	D	E	F	G	H	I	J	19	A	B	C	D	E	F	G	H	I	J	29	A	B	C	D	E	F	G	H	I	J
9	1	2	3	4	5	6	7	8	9	10	19	1	2	3	4	5	6	7	8	9	10	29	1	2	3	4	5	6	7	8	9	10
10	A	B	C	D	E	F	G	H	I	J	20	A	B	C	D	E	F	G	H	I	J	30	A	B	C	D	E	F	G	H	I	J
10	1	2	3	4	5	6	7	8	9	10	20	1	2	3	4	5	6	7	8	9	10	30	1	2	3	4	5	6	7	8	9	10

31	A B C D E F G H I J	41	A B C D E F G H I J	51	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
32	A B C D E F G H I J	42	A B C D E F G H I J	52	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
33	A B C D E F G H I J	43	A B C D E F G H I J	53	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
34	A B C D E F G H I J	44	A B C D E F G H I J	54	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
35	A B C D E F G H I J	45	A B C D E F G H I J	55	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
36	A B C D E F G H I J	46	A B C D E F G H I J	56	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
37	A B C D E F G H I J	47	A B C D E F G H I J	57	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
38	A B C D E F G H I J	48	A B C D E F G H I J	58	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
39	A B C D E F G H I J	49	A B C D E F G H I J	59	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10
40	A B C D E F G H I J	50	A B C D E F G H I J	60	A B C D E F G H I J
	1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10		1 2 3 4 5 6 7 8 9 10

First letter on test
is "I"

31	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	41	A B C D E F G H I J ① ② ③ ④ ● ⑥ ⑦ ⑧ ⑨ ⑩	51	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
32	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	42	A B C D E F G H I J ● ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	52	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
33	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	43	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	53	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
34	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	44	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	54	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
35	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	45	A B C D E F G H I J ① ② ● ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	55	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
36	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	46	A B C D E F G H I J ① ● ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	56	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
37	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	47	A B C D E F G H I J ① ② ● ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	57	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
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39	A B C D E F G H I J ① ● ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	49	A B C D E F G H I J ① ● ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	59	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
40	A B C D E F G H I J ① ● ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	50	A B C D E F G H I J ● ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩	60	A B C D E F G H I J ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

Let's all get this correct
this time - use your packet
number not Social Security
Number on your answer
sheet!

BIOLOGY 1432, Section 07576

FIRST MIDTERM EXAM

March 24, 2003

Print your name and Packet
Identification Number on your TEST
BLUE ANSWER SHEET.

Bubble in YOUR NAME AND Packet
Number in the appropriate spaces.
Start your Packet Identification
Number in Box A.

Name (Last, first & middle initial),
print please:

Packet Identification No: _____

KEEP THE COVER SHEET OVER
YOUR ANSWER SHEET AT ALL
TIMES

Your grade will be posted for each
examination you take in this course
by the four digit Packet
Identification Number on the SIBS
website, www.uh.edu/sibs

Multiple choice

1. A chemical modification that adds
methyl groups to cytosine residues in some
genes acts to:

- a) inactivate genes
- b) amplify the genes
- c) stabilize the mRNA
- d) enhance transcription
- e) enhance translation

2. Chromosome puffs represent a visuali-
zation of:

- a) DNA replication
- b) RNA synthesis
- c) alternate processing
- d) translational control of gene expres-
sion
- e) cell differentiation

3. Which of the the following is transcrip-
tionally active or is potentially transcrip-
tionally active:

- a) meiotic metaphase chromosome
- b) heterochromatin
- c) euchromatin
- d) mitotic chromosomes
- e) anaphase chromosomes of both
mitosis and meiosis

4. Which of these genes would a eukaryot-
ic cell need to have amplified:

- a) histone genes
- b) 5S rRNA genes
- c) nucleolar genes
- d) rRNA genes
- e) all of these

5. The nucleosome core particle is com-
posed of octamer of proteins. How many
different proteins make this octamer:

- a) 1
- b) 2
- c) 3
- d) 4
- e) 8

6. Where in pine tree cells are polypep-
tides formed:

- a) nucleus
- b) cytoplasm
- c) cytoplasm and mitochondria
- d) cytoplasm, mitochondria and
chloroplasts
- e) mitochondria and chloroplasts

7. The size of a functioning cytosolic ribo-
some of a eukaryote in Svedberg units is:

- a) 40S
- b) 50S
- c) 70S
- d) 80S
- e) 30S

8. Reverse transcriptase is used to pro-
duce:

- a) cDNA from RNA
- b) RNA from DNA
- c) mRNA
- d) proteins from RNA
- e) DNA from proteins

9. DNA, after exposure to restriction
endonucleases, is separated by means of
gel electrophoresis on the basis of:

- a) size of the molecule
- b) charge of the molecule
- c) number of strands present in mole-
cule
- d) amount of ribose present
- e) none of these are correct

10. Restriction endonucleases cut DNA at
a particular site producing "sticky" ends
(single-stranded). For what purpose were
these enzymes evolved:

- a) they are not naturally occurring but
were invented by genetic engineers
- b) by prokaryotes to cut exogenous
DNA in small nonfunctional pieces
- c) by plasmids to cut the host cell DNA
to facilitate plasmid insertion
- d) by lysogenic viruses to promote
lysogeny
- e) by viruses to cut bacterial host DNA
into small nonfunctional pieces

11. DNA fragments cut by restriction
endonucleases can be rejoined by the
enzyme:

- a) RNA polymerase
- b) DNA polymerase
- c) DNA ligase
- d) restriction endonucleases
- e) found in the large ribosome subunit

12. The dideoxy method of deoxyribonucle-
ic acid sequencing depends on the use of a
pentose sugar that lacks:

- a) hydroxyl at 2'
- b) hydroxyl at 2' and 3'
- c) hydroxyl at 5'
- d) all hydroxyls on ribose
- e) identity to dideoxyribose

13. Methods to insert foreign DNA into
cells include which of the following:

- a) microprojectiles
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- c) transfection
- d) bacterial transformation
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14. *Agrobacterium tumefaciens* containing
a plasmid with a Ti transposon (the vector)
normally causes crown gall disease in
plants. What was done to the vector so
that it did not cause crown gall disease of
Arabidopsis thaliana?

- a) remove the Ti plasmid from the
Agrobacterium tumefaciens
- b) remove the genes for cytokinin and
auxin from the Ti plasmid
- c) remove the cell wall from the bacteri-
um
- d) insert the genes to transform the
Arabidopsis into the plasmid
- e) heat kill the bacteria before perform-
ing the transformation exercise

15. A free-living bacterium that lacks a peptidoglycan cell wall and lives in very high salt concentrations would be placed in the:

- a) Eubacteria
- b) Archaeobacteria
- c) Cyanobacteria
- d) Eukaryota
- e) Protista

16. An organism with a region of the cytoplasm containing DNA strands about 2 nm in diameter and possessing a cell wall partially composed of peptidoglycan would belong to the:

- a) Eukaryota
- b) Eubacteria
- c) Fungi
- d) Protista
- e) Archaea

17. Viruses are not classified as living cells because they:

- a) some contain RNA as their genetic material
- b) cannot reproduce outside a living cell
- c) some can be crystallized
- d) lack of cytoplasm
- e) a-d are all correct

18. Which of the following does a *Mycoplasma sp.* cell lack:

- a) peptidoglycan
- b) DNA
- c) plasma membrane
- d) membrane that conforms to the Singer-Nicholson fluid mosaic model
- e) proteins in its plasma membrane

19. The fungal partner that is lichenized is usually a(n):

- a) slime mold
- b) basidium producing fungus
- c) ascomycete
- d) fungus that is never dikaryotic
- e) fungus belonging to the fungal division that is characterized by the production of basidiocarps (or structures commonly called mushrooms)

20. *Mycorrhizae* are:

- a) slime molds that cause root damage
- b) basidiomycete and zygomycete fungi that live symbiotically with land plant roots
- c) a disease causing fungal pathogen
- d) wood rotting fungi
- e) fungal-algal associations, e.g., lichens

21. Fungi are classified on the basis of differences in:

- a) cell wall composition
- b) modes of nutrition
- c) reproductive structures
- d) mode of locomotion
- e) size

22. A fungal cell that contains two genetically dissimilar haploid nuclei is known as a:

- a) mycelium
- b) hypha
- c) gametangium
- d) heterokaryon
- e) zygote

23. Most fungi send out cellular filaments called:

- a) mycelia
- b) hyphae
- c) mycorrhizae
- d) asci
- e) gills

24. Most imperfect fungi are what type of fungi:

- a) ascomycetes
- b) basidiomycetes
- c) yeasts
- d) water molds
- e) zygomycetes

25. A chemical modification that adds methyl groups to cytosine residues in some genes acts to:

- a) inactivate genes
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- a) remove the Ti plasmid from the *Agrobacterium tumefaciens*
- b) remove the genes for cytokinin and auxin from the Ti plasmid
- c) remove the cell wall from the bacterium
- d) insert the genes to transform the *Arabidopsis* into the plasmid
- e) heat kill the bacteria before performing the transformation exercise

39. Evolutionary biologists believe that mitochondria arose a long time ago from:

- a) cyanobacteria
- b) ascomycetes
- c) basidiomycetes
- d) purple non-sulfur bacteria
- e) chloroplasts

40. The eukaryotic plant cell is thought to have arisen by serial endosymbiotic events involving the capture of:

- a) anaerobic bacteria and photosynthetic anaerobic bacteria
- b) aerobic bacteria and cyanobacteria
- c) mitochondria and chloroplasts
- d) mitochondria
- e) chloroplasts

41. In the cell signaling process termed indirect signal transduction what mediates the interaction between receptor binding and cellular reactions:

- a) ligand
- b) receptor
- c) protein kinase
- d) second messenger
- e) G-protein linked receptor

42. The receptor for the steroid ligand cortisol when it combines with cortisol is:

- a) a transmembrane protein in the plasma membrane
- b) a protein in the nuclear interior
- c) a cytosolic protein
- d) a protein in the membrane of the Golgi body cisternae
- e) a protein in the membrane of the endoplasmic reticulum

43. Which of the following is not a second messenger:

- a) cyclic AMP
- b) a lipid derived substance or phosphatidylinositol
- c) diacylglycerol
- d) calcium ions
- e) epinephrine

44. Which of the following directly plays an amplification role in cell signaling:

- a) chaperone
- b) membrane receptor
- c) cytoplasmic receptor
- d) protein kinase
- e) growth factor

45. Which of the following is an inorganic second messenger operative in multicellular animals:

- a) ethylene
- b) nitric oxide
- c) cortisol
- d) cyclic AMP
- e) epinephrine

46. Which of the following is involved in direct intercellular communication of multicellular animals:

- a) plasmodesmata
- b) gap junctions
- c) calcium ions
- d) nitric oxide
- e) cyclic AMP

47. Which of the following is not a plasma membrane receptor:

- a) ion channels
- b) protein kinases
- c) G-protein linked receptors
- d) desmotubule
- e) transmembrane protein that has a site for an extracellular ligand

48. In the proposed pattern of endosymbiosis leading to an eukaryotic algae, e.g., a dinoflagellate or an euglenid, which of the following steps involved capture of a prokaryote:

- a) primary endosymbiosis
- b) secondary endosymbiosis
- c) tertiary endosymbiosis
- d) primary and secondary but not tertiary endosymbiosis
- e) all endosymbiotic events

49. A myxamoeba is a cell type that occurs in which of the following:

- a) dictyostelids
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50. What kind of life forms control the nitrogen cycle (give most inclusive answer):

- a) Prokaryota
- b) Eukaryota
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BIOLOGY 1432, Section 07576

FIRST MIDTERM EXAM

FEBRUARY 19, 2003

Print your name and Packet

Identification Number on your TEST BLUE ANSWER SHEET.

Bubble In YOUR NAME AND Packet Number in the appropriate spaces.

Start your Packet Identification Number in Box A.

Name (Last, first & middle initial), print please:

Packet Identification No:

KEEP THE COVER SHEET OVER YOUR ANSWER SHEET AT ALL TIMES

Your grade will be posted for each examination you take in this course by the four digit Packet Identification Number on the SIBS website, www.uh.edu/sibs

Multiple choice

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- a) ligand
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- c) protein kinase
- d) second messenger
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2. The receptor for the steroid ligand cortisol when it combines with cortisol is:

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11. A chemical modification that adds methyl groups to cytosine residues in some genes acts to:

- a) inactivate genes
- b) amplify the genes
- c) stabilize the mRNA
- d) enhance transcription
- e) enhance translation

12. Chromosome puffs represent a visualization of:

- a) DNA replication
- b) RNA synthesis
- c) alternate processing
- d) translational control of gene expression
- e) cell differentiation

13. Which of the the following is transcriptionally active or is potentially transcriptionally active:

- a) meiotic metaphase chromosome
- b) heterochromatin
- c) euchromatin
- d) mitotic chromosomes
- e) anaphase chromosomes of both mitosis and meiosis

14. Which of these genes would a eukaryotic cell need to have amplified:

- a) histone genes
- b) 5S rRNA genes
- c) nucleolar genes
- d) rRNA genes
- e) all of these

15. The nucleosome core particle is composed of octamer of proteins. How many different proteins make this octamer:

- a) 1
- b) 2
- c) 3
- d) 4
- e) 8

16. Where in pine tree cells are polypeptides formed:

- a) nucleus
- b) cytoplasm
- c) cytoplasm and mitochondria
- d) cytoplasm, mitochondria and chloroplasts
- e) mitochondria and chloroplasts

17. The size of a functioning cytosolic ribosome of a eukaryote in Svedberg units is:

- a) 40S
- b) 50S
- c) 70S
- d) 80S
- e) 30S

Add these 26 questions to final
11-17, 18-24
27-30, 32-35,
37-38, 43-44

Ver 2

22, I

48

Oxygen evolutionary
hydrogen
E-
acceptors
clearance

Test on
about
Emerson
Red + Filled.

P. 18 question 28
P. 18 always
P. 18 Physiol

122 backwards
from 0 to 1000

A 0

Chlorophyll
Ar.
274-292
P. 18 Physiol

ver 2. p. 2

18. Reverse transcriptase is used to produce:

- a) cDNA from RNA
- b) RNA from DNA
- c) mRNA
- d) proteins from RNA
- e) DNA from proteins

19. Restriction endonucleases cut DNA at a particular site producing "sticky" ends (single-stranded). For what purpose were these enzymes evolved:

- a) they are not naturally occurring but were invented by genetic engineers
- b) by prokaryotes to cut exogenous DNA in small nonfunctional pieces
- c) by plasmids to cut the host cell DNA to facilitate plasmid insertion
- d) by lysogenic viruses to promote lysogeny
- e) by viruses to cut bacterial host DNA into small nonfunctional pieces

20. DNA, after exposure to restriction endonucleases, is separated by means of gel electrophoresis on the basis of:

- a) size of the molecule
- b) charge of the molecule
- c) number of strands present in molecule
- d) amount of ribose present
- e) none of these are correct

21. DNA fragments cut by restriction endonucleases can be rejoined by the enzyme:

- a) RNA polymerase
- b) DNA polymerase
- c) DNA ligase
- d) restriction endonucleases
- e) found in the large ribosome subunit

22. The dideoxy method of deoxyribonucleic acid sequencing depends on the use of a pentose sugar that lacks:

- a) hydroxyl at 2'
- b) hydroxyl at 2' and 3'
- c) hydroxyl at 5'
- d) all hydroxyls on ribose
- e) identity to dideoxyribose

23. Methods to insert foreign DNA into cells include which of the following:

- a) microprojectiles
- b) electroporation
- c) transfection
- d) bacterial transformation
- e) all of these are methods used to insert DNA

24. *Agrobacterium tumefaciens* containing a plasmid with a Ti transposon (the vector) normally causes crown gall disease in plants. What was done to the vector so that it did not cause crown gall disease of *Arabidopsis thaliana*?

- a) remove the Ti plasmid from the *Agrobacterium tumefaciens*
- b) remove the genes for cytokinin and auxin from the Ti plasmid
- c) remove the cell wall from the bacterium
- d) insert the genes to transform the *Arabidopsis* into the plasmid
- e) heat kill the bacteria before performing the transformation exercise

25. Evolutionary biologists believe that mitochondria arose a long time ago from:

- a) cyanobacteria
- b) ascomycetes
- c) basidiomycetes
- d) purple non-sulfur bacteria
- e) chloroplasts

26. The eukaryotic plant cell is thought to have arisen by serial endosymbiotic events involving the capture of:

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- e) because of the presence of an ozone layer in the early atmosphere

29. Which of the following produced an aerobic environment on the earth's surface:

- a) bacterial photosynthesis
- b) glycolysis
- c) cellular respiration
- d) cyanobacterial photosynthesis
- e) photosynthesis by eukaryotes

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- e) carbohydrates

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32. The mechanism of motion used by the foraminifera, the heliozoa, and the radiolaria is:

- a) cilia
- b) flagella
- c) gliding motility
- d) no motility
- e) amoeboid

33. In one group of protozoans all the species are parasitic. Which one is it:

- a) Sarcocystidophora
- b) Ciliophora
- c) Myxomycota (acellular slime molds)
- d) Acrasiomycota (cellular slime molds)
- e) Sporozoa

34. Which one feature can be used to characterize broadly the major groups of heterotrophic Protista:

- a) type of organelles
- b) presence or absence of plastids
- c) Gram stain
- d) presence or absence of nucleus
- e) mechanism of locomotion

35. The least mobile protists include:

- a) euglenids
- b) ciliates
- c) sporozoans
- d) dinoflagellates
- e) flagellates

36. What kind of life forms control the nitrogen cycle (give most inclusive answer):

- a) Prokaryota
- b) Eukaryota
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37. Possession of a protein cytoskeleton of microtubules, microfilaments and intermediate filaments would be characteristic of which of the following.

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- b) eukaryotes
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38. Which of the following characteristics can be used to **distinguish** between the two domains (Eukaryota and Prokaryota):

- a) DNA is the genetic material
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- c) the cell is enclosed by a cell wall
- d) the flagellum if present is composed of microtubules
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39. A free-living bacterium that lacks a peptidoglycan cell wall and lives in very high salt concentrations would be placed in the:

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- c) Cyanobacteria
- d) Eukaryota
- e) Protista

40. An organism with a region of the cytoplasm containing DNA strands about 2 nm in diameter and possessing a cell wall partially composed of peptidoglycan would belong to the:

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- b) Eubacteria
- c) Fungi
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50. Most imperfect fungi are what type of fungi:

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VERO3

W

1-9, 11, 12, 13, 14, 18, 19, 20, 22, 23, 24, 37, 38, 39, 50, 34, 35, 36
one not on A
10 on
15 ok
16
25-33, 40-49
25
22
29 error
35

Let's all get this correct this time - use your packet number not Social Security Number on your answer sheet!

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March 24, 2003
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