

**SECTION A: ANSWER SHEET**

Q. No.	a	b	c	d	Q. No.	a	b	c	d
1.				✓	16.				✓
2.	✓				17.				✓
3.			✓		18.			✓	
4.			✓		19.			✓	
5.		✓			20.	<b>DELETED</b>			
6.		✓			21.	✓			
7.		✓			22.	<b>a or d</b>			
8.			✓		23.			✓	
9.	✓				24.				✓
10.		✓			25.			✓	
11.		✓			26.				✓
12.				✓	27.			✓	
13.				✓	28.	✓			
14.			✓		29.	✓			
15.		✓							

	X	Y	Not attempted	
<b>SECTION A</b>				<b>3X - Y =</b>
<b>SECTION B</b>				<b>3X =</b>
<b>Total score =</b>				

## SECTION B: ANSWER SHEET

### CELL BIOLOGY (14 points)

30. (2 points) Answer: 0.180 or 0.190 moles

31. (2 points)

1: Y

2: Z

3: X

4: W

32. (3 points)

a. F

b. F

c. T

d. T

e. F

f. F

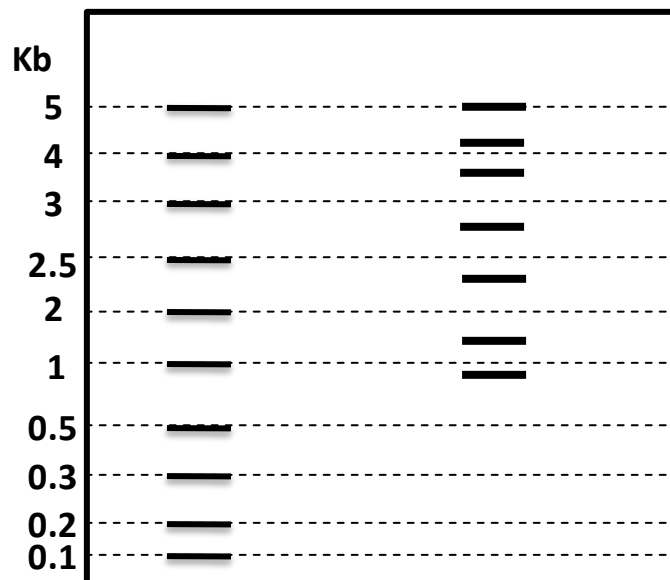
33. (1+2 = 3 points)

(A) Answer: 7.

(B)

MW  
markers

Partially  
digested  
sample



34. (2+2 = 4 points)

**(A)**

a. \_\_\_Y\_\_\_

b. \_\_\_N\_\_\_

c. \_\_\_N\_\_\_

d. \_\_\_Y\_\_\_

**(B)** Answer: \_\_\_I\_\_\_ digestion with enzyme \_\_\_IV\_\_\_ and \_\_\_I or  
II\_\_\_ digestion with enzyme \_\_\_V\_\_\_.

**OR**

\_\_\_ I or II \_\_\_ digestion with enzyme \_\_\_V\_\_\_ and \_\_\_I\_\_\_  
digestion with enzyme \_\_\_IV\_\_\_.

**PLANT SCIENCES (9 points)**

35. (2 points)

Answer: P: \_\_\_a\_\_\_      Q: \_\_\_b\_\_\_      R: \_\_\_d\_\_\_      S: \_\_\_c\_\_\_

36. (2 points)

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_T\_\_\_

d. \_\_\_F\_\_\_

37. (0.5 + 0.5 + 2 = 3 points)

**(A)** \_\_\_12\_\_\_ years

**(B)** \_\_\_1\_\_\_

(C)

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_F\_\_\_

d. \_\_\_F\_\_\_

38. (2 points)

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_T\_\_\_

d. \_\_\_T\_\_\_

**ANIMAL SCIENCES (7 points)**

39. (2.5 points)

Interpretation	Correct	Incorrect
a.		✓
b.		✓
c.		✓
d.	✓	
e.		✓

40. (2.5 points)

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_F\_\_\_

d. \_\_\_T\_\_\_

e. \_\_\_T\_\_\_

41. (2 points)

Modification	Insect	Function
A	IV	O
B	I	N
C	II	M
D	III	P

**GENETICS & EVOLUTION (18 points)**

42. (2 points)

Interpretation	Correct	Incorrect
a.		✓
b.		✓
c.		✓
d.	✓	

43. (2 points)

Genotype	Phenotype
XO:2A	c
XXY::2A	b
X:3A	f
XXX:2A	e

44. (2 points)

a. \_\_\_T\_\_\_

b. \_\_\_F\_\_\_

c. \_\_\_T\_\_\_

d. \_\_\_F\_\_\_

45. (2 points)

Answer: \_\_\_1/6\_\_\_

46. (3 points)

(A) Answer: \_\_\_ aaBB \_\_\_

(B)

Parent 1	Parent 2
AAbb	A_bb

or

Parent 1	Parent 2
A_bb	AAbb

47. (2 points)

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_F\_\_\_

d. \_\_\_T\_\_\_

48. (3 points)

**I 2** : Hh I<sup>B</sup> I<sup>B</sup>, Hh I<sup>B</sup> I<sup>0</sup>

**II 3** : hh I<sup>A</sup> I<sup>B</sup>, hh I<sup>B</sup> I<sup>0</sup>

**II 4** : HH I<sup>A</sup> I<sup>0</sup>, Hh I<sup>A</sup> I<sup>0</sup>

49. (2 points)

(I) \_\_\_0.25\_\_\_

(II) \_\_\_0.25\_\_\_

(III) \_\_\_0.25\_\_\_

(IV) \_\_\_0.125\_\_\_

**ETHOLOGY (8 points)**

50. (2 points)

a. \_\_\_F\_\_\_

b. \_\_\_F\_\_\_

c. \_\_\_T\_\_\_

d. \_\_\_F\_\_\_

51. (2 points)

a. \_\_\_F\_\_\_

b. \_\_\_F\_\_\_

c. \_\_\_F\_\_\_

d. \_\_\_T\_\_\_

52. (4 points)

**(A)**

Situation	Favour	Not Favour
a.		✓
b.	✓	
c.	✓	
d.		✓

**(B)**

a. \_\_\_F\_\_\_

b. \_\_\_T\_\_\_

c. \_\_\_T\_\_\_

d. \_\_\_F\_\_\_

**ECOLOGY (7 points)**

53. (1+ [0.5 x 4] = 3 points)

(A)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Species turnover rate		0.5	0.09	0.33	0.11	0.059	0.059	0	0.05	0.2	0.05

(B) \_\_\_1988\_\_\_

(C) 1988 to 1989

(D) 1990 to 1991

(E) \_\_\_0\_\_\_

54. (2 points)

(A) Answer: \_\_\_10\_\_\_

(B) Answer: \_\_\_0.6\_\_\_

55. (2 points)

Answer: \_\_\_6 to 7 (6.65)\_\_\_

**BIOSYSTEMATICS (8 points)**

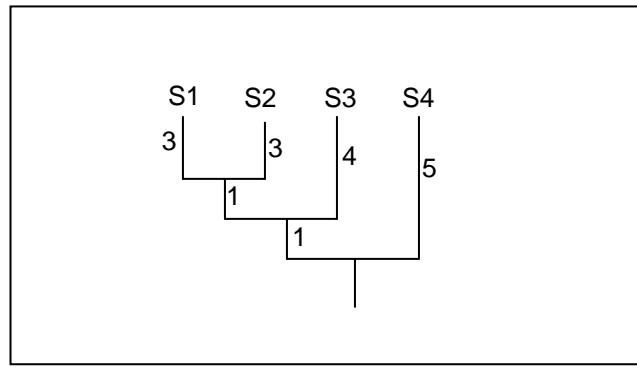
56. (4 points)

	Clade consisting of:	Description	Type
A	Cycads, Ginkos, Conifers and Gnetophytes	II	(ii)
B	Conifers, Gnetophytes and Angiosperms	I	(i)
C	Paramecium, Trypanosome and Euglena	I	(i)
D	Green algae, Red algae and Euglena	II	(ii)



57. (2 points)

Answer:



58. (2 points)

I. \_\_\_S\_\_\_

II. \_\_\_U\_\_\_

III. \_\_\_P\_\_\_

IV. \_\_\_S\_\_\_

\*\*\*\*\* END OF SECTION B \*\*\*\*\*