INBO - 2012

ROLL NO.

ANSWER KEY: SECTION A

Q. No.	a	b	c	d	Q. No.	a	b	c	d
1		✓			16				✓
2				✓	17			✓	
3		✓			18	✓			
4				✓	19			✓	
5			✓		20	✓			
6				✓	21		✓		
7				✓	22			✓	
8	✓				23			✓	
9		✓			24			✓	
10				✓	25			✓	
11	✓				26	✓			
12				✓	27	✓			
13			✓		28				✓
14				✓	29	✓			
15		✓			30				✓

	X	Y	Not attempted	
SECTION A				3X – Y =
SECTION B				3X =
				Total score =

ANSWER KEY: SECTION B

(Note: In Part B of the question paper, if a student has written full length answer instead of the alphabet or number of the respective option, it is also considered for marking.)

CELL BIOLOGY (17 points)

31. (2 points)

a. _____F

b. _____F

c. _____T

d. _____ T

32. (3 points)

P: Type _____III

Q: Type _____I

R: Type _____II

33. (2 points)

(A) Answer: _____5.1%

(B) Answer: _____434

34. (2 points)

Answer: _____19

35. (4 points)

Method	Chloroplast morphology	CO_2 fixation	Electron Transport	NADP reduction
a. Isolation in hypertonic sugar solution.	iv	a	a	a
b. Isolation in hypotonic sugar solution and immediate transfer to isotonic media.	ii	b	b	b
c. Prolonged treatment in hypotonic sugar solution and later with high salt concentration.	iii	c	b	d
d. Plant extract subjected to sonication and detergent treatment.	i	c	c	c

36. (2 + 2 = 4 points)

(A)

a.	b.	c.
		✓

(B)

(i)	(ii)	(iii)	(iv)	(v)	(vi)
✓				✓	

PLANT SCIENCES (10 points)

37. (2 points)

a.	b.	c.	d.
		✓	

38. (2 points)

a.	b.	c.	d.
	✓		

39. (2 points)

a. _____2

b. _____2

c. _____ 3

d. _____2

40. (2 points)

I. _____C

II. _____B

III. _____A

IV. _____D

41. (2 points)

(1) _____A, B and C

(2) _____A

(3) _____A and B

(4) _____A and C

ANIMAL SCIENCES (10.5 points)

42. (2.5 points)

A: _____iii

B: _____ii

C: _____i

D: _____iii

E: _____ii

43. (3+2+3 = 8 points)

(A)

Initial condition	Volume(lt)	Concentration (mOsm/lt)	Total (mOsm)
ECF	14	280	3920
ICF	28	280	7840
Total body fluid	42	280	11760

(B) Answer: __309.1_____(mOsm/lt)

(C)

Net Qualitative Effect	True/False
(a) Extracellular volume will increase.	T
(b) Intracellular volume will decrease.	T
(c) Extracellular osmolarity will decrease.	F
(d) Intracellular osmolarity will decrease.	F
(e) There will be an increase in total body fluids.	T
(f) There will be an equal osmolarity between ECF and ICF.	T

GENETICS & EVOLUTION (7 points)

44. (3 + 2 = 5 points)

(A)

Answer: Of F1 female:

_____46%pq^+, 46%p^+q, 4%pq, 4%p^+q^+_____

Of F1 male:

_____50%pq^+, 50%p^+q_____

(B)

Answer:_____46%pq^+, 46%p^+q,4%pq, 4%p^+q^+_____

45. (2 points)

(A).

a.	b.	c.	d.
	✓		

(B).

a.	b.	c.	d.
✓			

ETHOLOGY (5 points)

46. (2 points)

i) _____T

ii) _____T

iii) _____F

iv) _____T

47. (3 points)

No.	Characteristics	Parental Care Type	Mating System
1.	Large investment required for incubating and feeding the young for prolonged time	c	I
2.	Lactating females, internal fertilization	b	III
3.	External fertilization, females exhibit territorial behaviour	a	II

ECOLOGY (14 points)

48. (2 points)

Species	+ /-
G. aureus	+
G. virdis	+
D.spectabilis	+
G. lobatus	-

49. (2 points)

Answer: _____500

50. (2 points)

1. _____F
2. _____T
3. _____T
4. _____F

51. (3 points)

(A)

a.	b.	c.	d.
			✓

(B) P / Q / ✓ R / S

(C) P / ✓Q / ✓ R / S (Any one of the two correct answers will get one point.)

52. (3 points)

(A) _____II

(B) _____II

(C) _____III

53. (2 points)

i. Answer: _____C - A

ii. Answer: _____B - C

BIOSYSTEMATICS (6.5 points)

54. (2+2+2.5 = 6.5 points)

(A)

a.	b.	c.	d.	e.
			✓	

(B)

a.	b.	c.	d.
			✓

(C)

Column I	Column II
Name of the animal	**Body Plan**
(i) Silverfish	C
(ii) Planaria	E
(iii) Jelly fish	F
(iv) Lizard	A
(v) Ascaris	G

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