भाग-1

3322355

M 1 5 5 3 0 8 1 2

नामांकन संख्या

अनुक्रमांक (अंकों में)

अनुक्रमांक (शब्दों में)

परीक्षार्थी का पूरा नाम Geeta Pal

कक्ष निरीक्षक का नाम

हस्ताक्षर Anju

परीक्षार्थी द्वारा सम्पूर्ण विवरण भर लिए गये हैं।

R

2018-

भाग-2

M.Sc. Internal

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

Ch. Charan Singh University, Meerut

01/5/19

निम्नलिखित विवरण परीक्षार्थी द्वारा स्वयं भरा जाए (To be filled by the Examinee)

परीक्षा का नाम (Name of Exam) M.Sc वर्ष 20 19-20 (Year 20.....) भाग/सेमेस्टर (Part / Semester) II sem

विषय (Subject) Zoology प्रश्न-पत्र/पाठ्यक्रम (Paper /Course) Genetics पेपर कोड नं. (Paper Code No.) H-2063

परीक्षा का दिन (Day of Examination) Thursday दिनांक (Date) 2/05/19

प्राप्तांक एवं पूर्णांक परीक्षकों द्वारा भरे जायें

पूर्णांक (Max. Marks)

प्रश्नों की क्रम संख्या	a/I	b/II	c/III	d/IV	e/V	f/VI	g/VII	h/VIII	i/IX	j/X	योग
1	1	1	1	1						4	
2	1	1½							2½		
3	3	3½								6½	
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12											
13											
14											

Geeta Pal

13

प्राप्तांक

(शब्दों में)	अंकों में

जाँचकर्ता के हस्ताक्षर एवं तिथि

परीक्षक के हस्ताक्षर एवं तिथि

भाग-3

2018-

R

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

आवश्यक निर्देशों हेतु पृष्ठ भाग देखें

Date Stamp to be affixed here

(परीक्षार्थी द्वारा भरा जाए)

परीक्षा का नाम M.Sc भाग/सेमेस्टर II sem

विषय Zoology

प्रश्न पत्र Genetics दिनांक 02/5/19

परीक्षार्थी का अनुक्रमांक (Roll Number)

उत्तर-पुस्तिका क्रमांक KM-I-01-

कालेज कोड 0 1 8

(परीक्षार्थी की श्रेणी)

- संस्थागत ●
- व्यक्तिगत ○
- बैक पेपर ○
- अंक सुधार ○
- भूतपूर्व ○
- एकल विषय ○

नामांकन संख्या (Enrollment Number) M 1 5 5 3 0 8 1 2

पेपर कोड H - 1 0 6 3

परीक्षार्थी का पूरा नाम Geeta Pal

कक्ष निरीक्षक का नाम Anju

Section-A
(Very Short Answer Questions)

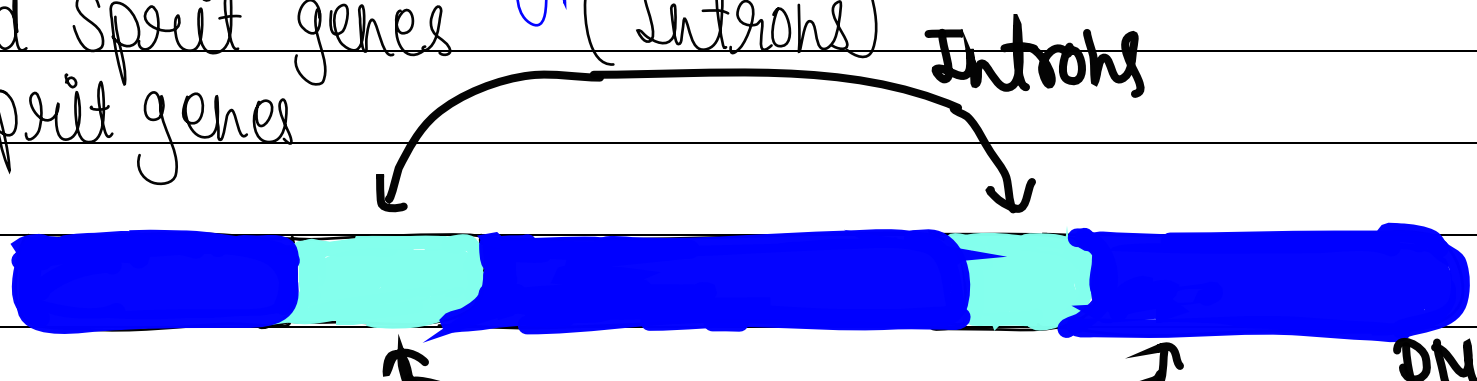
Q3: GenBank:-

- GenBank is Gene stored in GenBank.
- GeneBank is nucleotides sequences of protein and Database of national Institute of Genetics.
- GenBank is DNA Databank of japan and EMBL (European molecular Biology Laboratory) is most database.
- GenBank is related with DNA Databank of japan.

Qu: Full Form of PCR :- (Polymerase Chain Reaction)

Qs: Split gene :-

- Genes are interrupted sequence of nucleatides are referred to as split gene.
- Genes are formed by the Richart J. Robert and Philip by the 1977 by physiology or medicine.
- Split genes are two types.
- Interrupted Split genes (Introns)
- Normal Exons) split genes



Excons

Q1→ Mandal selected plant for his experiment. The flower is pea plant ~~is~~ By sexual plant.

→ The flower plant is life sperm is very Short.

Q2)

→ Initiation genetic code and Amino acid →

→ They are code for methionine.

→ They code are AUG (Adenine Uracil Guanine)

→ And the codon are GUG (Guanine Uracil Guanine)

Section-C

Q-9 Medalian principals of Genetics →

- They are three types of mandalion principal.

(1) Low of Dominance
(2) Low of segregation and purity of Gametes.
(3) Low of Independent assortment

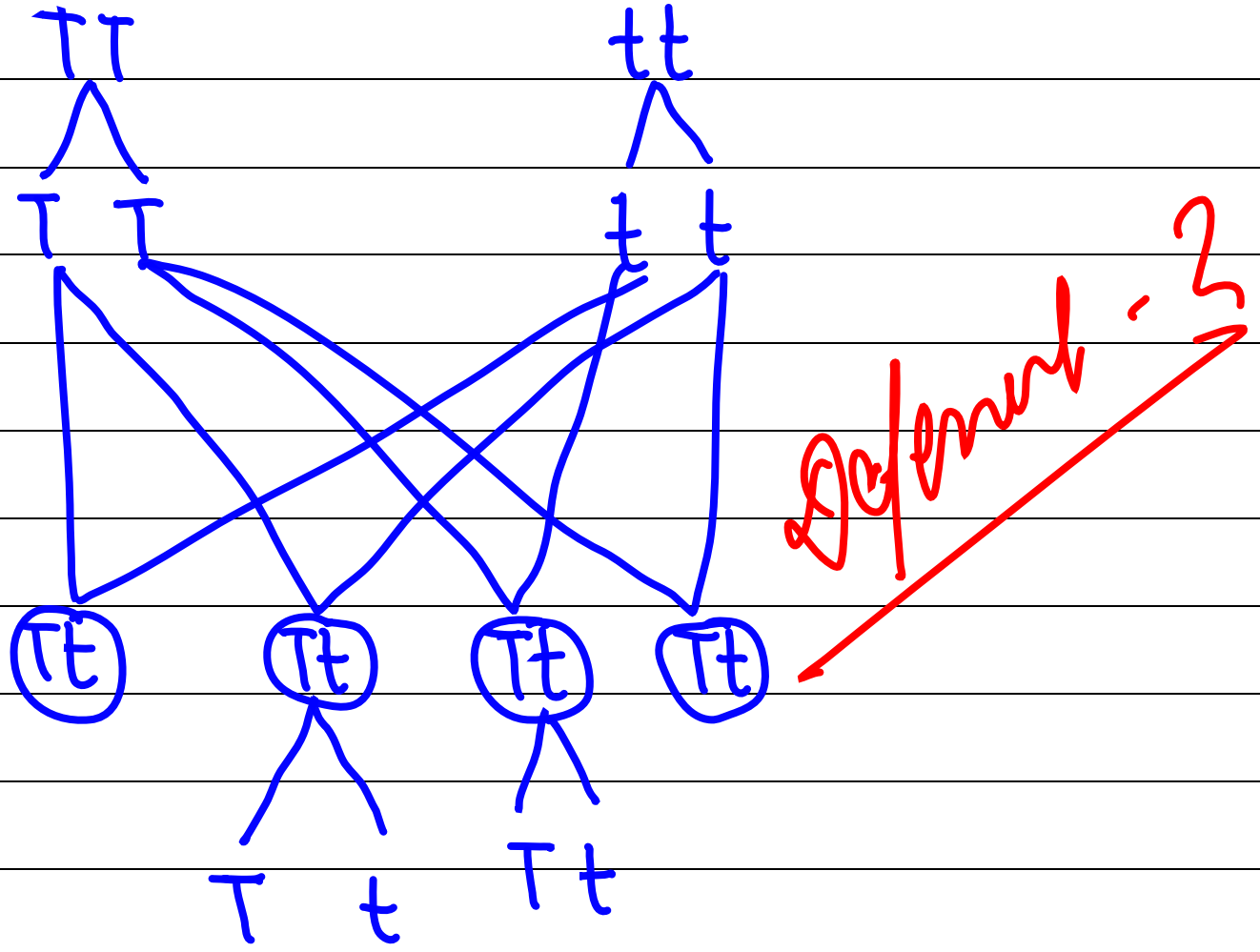
(1) Low of Dominance :- If we make a cross between two homo zygous between the F1 generation and Hetero zygous is F2 generation. F1 generation is dominance, and F2 generation is recessive.

	T	t
T	TT	Tt
T	TT	Tt

The character which appear in F1 is called dominant

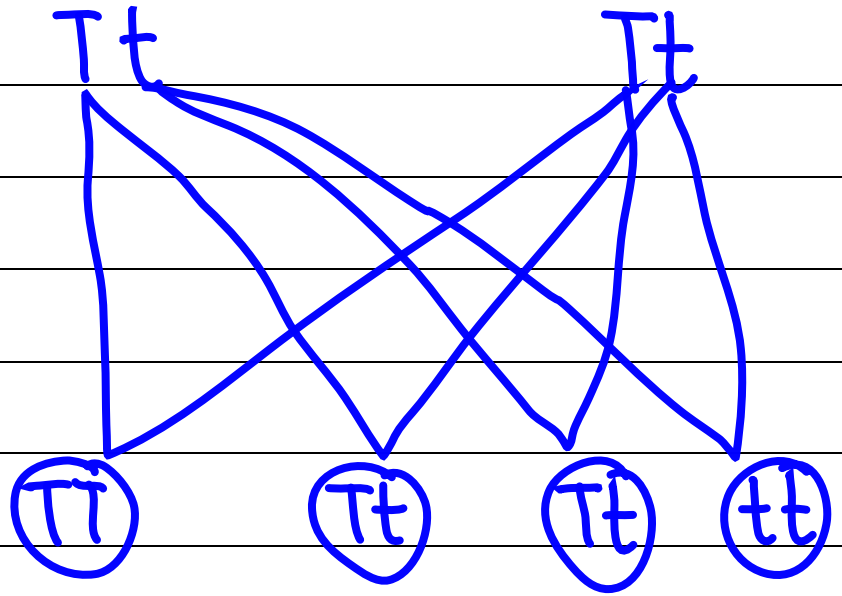
(2) Law of segregation or purity of gametes :

(P) →



(G) →

(f1) →



Genotype → 3:1 Ratio
Phenotype → 3:1 Ratio

(3) Law of Independent Assortment :

TTXtt → 3:1
RRXrr → 9:3:3:1

$$\frac{TTRR}{ttrr} = \frac{3:1}{9:3:3:1}$$

$$\frac{TTRR\,ww}{ttrr\,ww} = \frac{3:1}{9:3:3:1}$$

$$\frac{ww}{ww} = \frac{3:1}{27:9:9:3:9:3:3:1}$$

Genotype phenotype

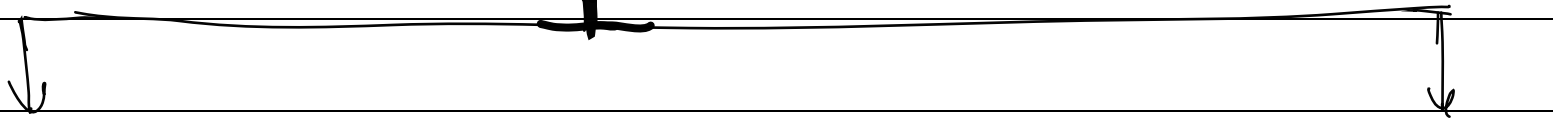
Ratio = $\frac{3:1}{27:9:9:3:9:3:3:1}$

3

Q10 Numerical alternations of chromosomes?

Ans Summary:

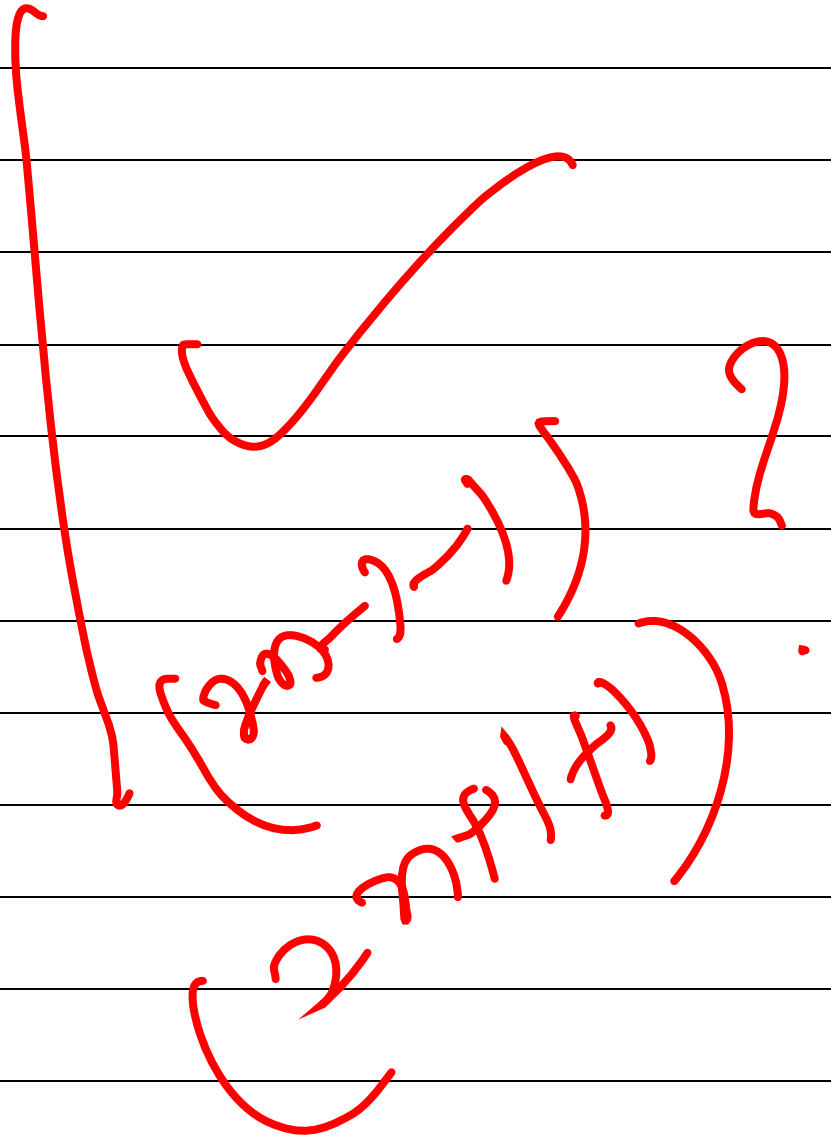
- Numerical alternation of chromosomes-
- **Chromosomal aberration of chromosomes**



- Numeric abnormalty
- Structural aberration
- Numeric abnormalty → Euploidy
  → Aneuploidy
- Euploidy

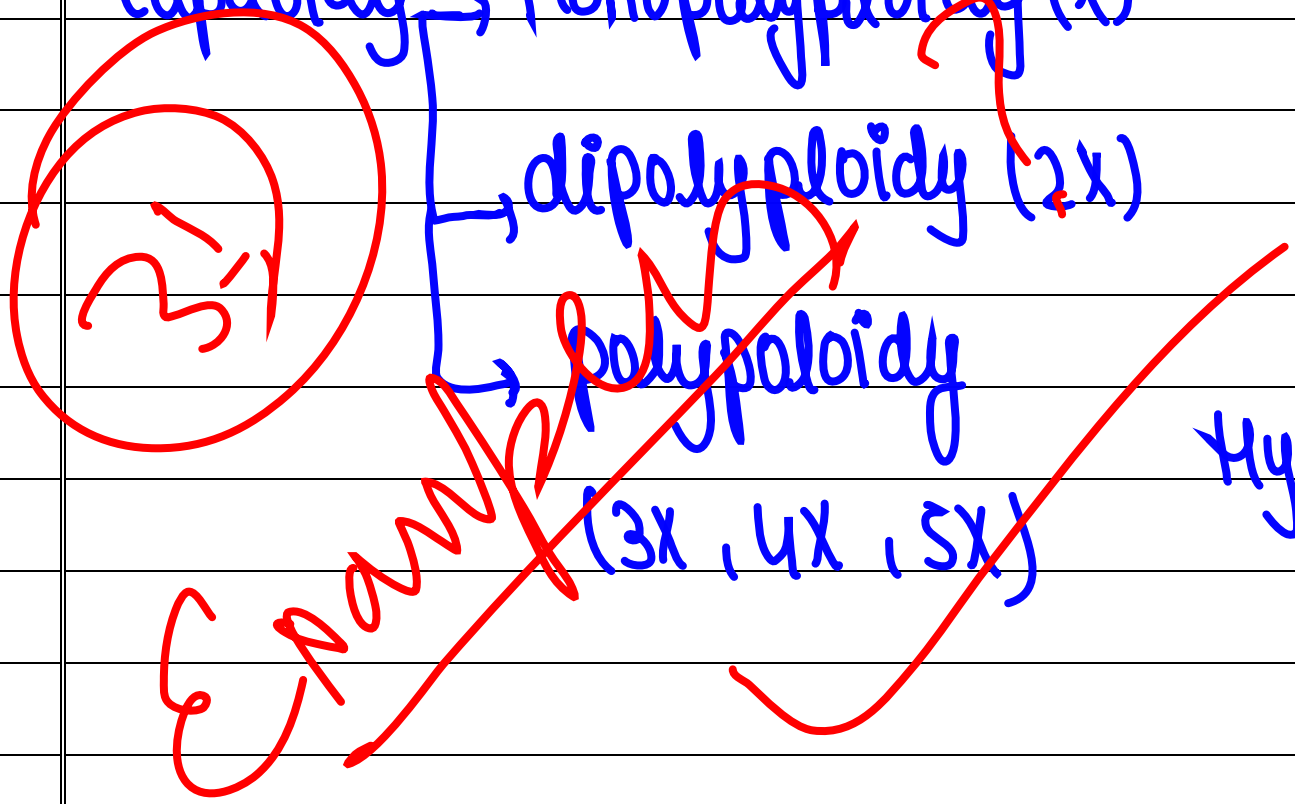
Monoploidy (X)
diploidy (2X)
polyploidy (3X, 4X, 5X)

- Aneuploidy
  - Monosomy (2n-1)
  - Nullisomy (2n-2)
  - Trisomy (2n+1)
  - Tetrasomy (2n+2)



Numerical Alternation of Chromosomes

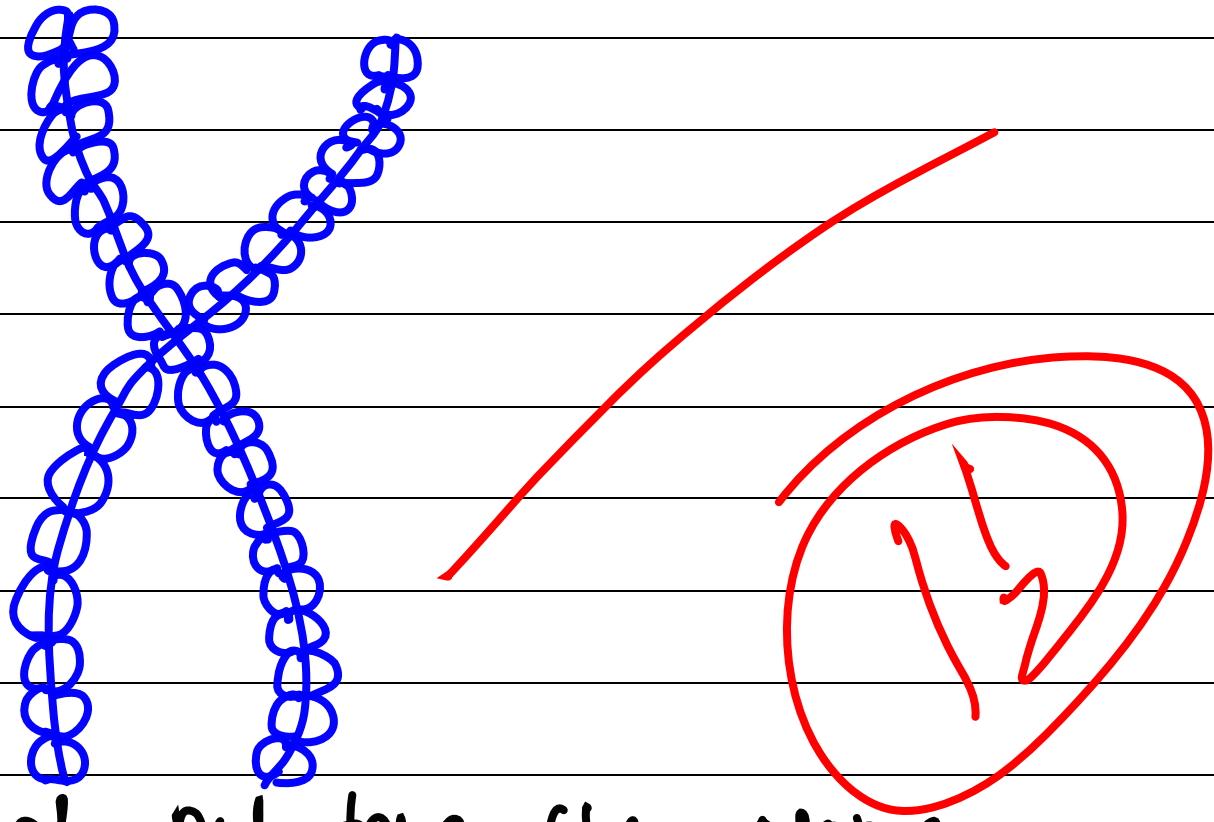
- Euploidy
  - Monopolyploidy (X)
  - dipolyploidy (2X)
  - Polypaloidy (3X, 4X, 5X)
- Aneuploidy
  - Hyperploidy
    - Monosomy (2n-1)
    - Nullisomy (2n-2)
  - Hypoploidy
    - Trisomy (2n+1)
    - Tetrasomy (2n+2)



Section-B

Q6→ Polytene Chromosomes→

- Polytene chromosomes described by the Balbiani 1980.
- Polytene chromosomes are Lowest Chromosomes and Oocytes and myloma present in polytene chromosomes.
- Polytene chromosomes are present in cytoplasma and Lampbrush chromosomes is defferent chromosomes.
- They are most Important part of the chromosome.



Part of polytene Chromosome

Q8 In-borne disorders?

Ans: Summary: (Single gene disorder)

(1) Autosomal dominance disorder → Heamophilia, colour blindness etc.
(2) Autosomal Recessive disorder
(3) X - linked Disorder
(4) Y - linked Disorder
(5) XY - linked Disorder