

**SERICULTURE EXTENSION OFFICER (RPC) IN THE DEPARTMENT OF SERICULTURE**

**Examination held on 20-08-2023 (AN)**

**Specific Paper (Paper - 2) (Subject Code: 545)**

**KEY CHART**

**Question Booklet Series - 'S'**

**Total Marks : 300**

**3 Marks for each question**

Question Number	Key Answer	Question Number	Key Answer	Question Number	Key Answer	Question Number	Key Answer
1	1	26	1	51	2	76	3
2	1	27	4	52	3	77	2
3	3	28	1	53	1	78	3
4	2	29	4	54	2	79	1
5	4	30	2	55	2	80	4
6	3	31	2	56	2	81	3
7	3	32	3	57	2	82	1
8	1	33	1	58	1	83	1
9	2	34	1	59	1	84	3
10	3	35	3	60	1	85	4
11	3	36	3	61	3	86	4
12	1	37	4	62	2	87	3
13	4	38	3	63	3	88	4
14	3	39	2	64	4	89	1
15	2	40	3	65	3	90	4
16	2	41	3	66	3	91	2
17	4	42	4	67	2	92	2
18	4	43	3	68	2	93	1
19	3	44	2	69	4	94	2
20	4	45	3	70	2	95	2
21	1	46	2	71	1	96	4
22	2	47	2	72	4	97	1
23	2	48	3	73	4	98	3
24	2	49	2	74	4	99	2
25	4	50	1	75	3	100	2

**Note: Every question for which wrong answer has been given by the candidate, ¼ th (0.25) of the marks assigned for that question will be deducted.**

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1. The mussel silk is produced by :

- (1) *Pinna squamosa*
- (2) *Samia cynthia ricini*
- (3) *Pachypasa otus*
- (4) *Nephila madagascariensis*

2. The following insect pest plays a key role in cross infectivity of pebrine during silkworm rearing :

- (1) Mulberry leaf roller ✓
- (2) Thrips ✓
- (3) Mealy bug ✓
- (4) Mites ✗

3. Seed Multiplication Farms are also called :

- (1) P4 Farms
- (2) P3 Farms
- (3) P2 Farms
- (4) P1 Farms

4. The gene identified for expression of "Golden yellow coloured cocoon" is :

- (1) Y
- (2) C
- (3) +<sup>y</sup>
- (4) I

5. Given below are two statements :

Statement A : The larval span of females is shorter than that of males in reciprocal crosses. ✓

Statement B : The females of hybrids grow at a faster rate.

In light of above statements, choose the most appropriate answer.

- (1) Statement A is correct but Statement B is incorrect ✓
- (2) Statement B is correct but Statement A is incorrect
- (3) Both Statement A and Statement B are incorrect ✓
- (4) Both Statement A and Statement B are correct ✗

6. Consider the following statements with respect to mulberry :

*Statement A* : The flowers of mulberry are unisexual. ✓

*Statement B* : The cross-pollination takes place in mulberry. ✓

*Statement C* : The chief pollinating agent in mulberry is wind.

Choose the correct answer using the codes below :

- (1) A and B only
  - (2) B and C only
  - (3) A, B and C
  - (4) A and C only
7. Which among the following is/are wrong statements ?

*Statement A* : The female silkworm pupa are heavier than males. ✗

*Statement B* : Females have tapering abdomen with x mark. ✓

*Statement C* : Male silk moths are more active than female. ✓

*Statement D* : Female moths emerge earlier than males in Mysore seed cocoons. ✓

- (1) A only
- (2) A and B only
- (3) B and D only
- (4) A and C only

8. With reference to the food plants of non-mulberry silkworms, consider the following statements :

- A. The Tasar silkworm feeds on the leaves of *Terminalia arjuna* and also the *Terminalia tomentosa*. ✓
- B. The Muga silkworm feeds on only the leaves of *Machilus bombycina*. ✗
- C. The Eri silkworm feeds on the leaves of *Ricinus communis* but does not feed on the leaves of *Manihot utilissima*.

Which of the above statements is/are correct ?

- (1) A only
  - (2) B only
  - (3) C only
  - (4) B and C only
9. High proportion of carotenoids is found in the cocoon of :
- (1) Indian race
  - (2) European race
  - (3) Korean race
  - (4) Indo-China race
10. Pirn winding is necessary to prepare :

- (1) Warp
- (2) Skein
- (3) Weft
- (4) All of the above



11. With reference to the spread of sericulture to India, consider the following statements :

- A. The silk industry is said to have spread to Tibet when a Chinese princess, carrying silkworm eggs in her head-dress, married the king of Khotan in Tibet.
- B. China conquered Khotan in Tibet and introduced sericulture.
- C. From Tibet, the sericulture industry spread to India.

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

12. With reference to the sericulture development by the British East India Company, consider the following statements :

- A. When the British came to India, they found a flourishing silk trade.
- B. The East India Company exploited the industry and developed silk centres in India. In 1836 because of the trade being turned over to the private enterprises, the silk industry declined in West Bengal.
- C. This resulted in decline of sericulture also in Mysore, Jammu and Kashmir.

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

13. From which of the following states did the Britishers export large quantities of raw silk to England ?

- (1) Jammu and Kashmir
- (2) Karnataka
- (3) Tamil Nadu
- (4) West Bengal

14. With reference to the sericulture practice in different climates, consider the following statements :

- A. Sericulture is practised in both tropical and temperate climate conditions.
- B. However, in temperate climate the cultivation of mulberry is acclimatized, which ensures continuous supply of mulberry leaf for silkworm rearing.
- C. Whereas, in tropical climate due to adequate climatic conditions, suitable soil, good sunshine and rainfall, the quantity of the silk production is more, which sustains the sericulture industry.

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

15. Consider the following pairs :

*Textile Fibre*                      *Origin*

- A. Viscose                      - Regenerated  
B. Ramie                        - Synthetic  
C. Cotton                        - Plant ✓  
D. Polypropylene - Regenerated

How many pairs given above are correctly matched ?

- (1) Only one pair  
(2) Only two pairs  
(3) Only three pairs  
(4) All four pairs

16. Sericulture from China and India was carried to Europe along the famous Silk Road. The correct order in which this road passed through the following cities is :

- (1) Baghdad, Tashkent, Damascus and Istanbul  
(2) Tashkent, Baghdad, Damascus and Istanbul  
(3) Damascus, Baghdad, Tashkent and Istanbul  
(4) Istanbul, Damascus, Baghdad and Tashkent

17. Mulberry plant is considered as :

- (1) Perennial, Dicot, Dioecious and Bisexual  
(2) Perennial, Dicot, Monoecious and Bisexual  
(3) Perennial, Monocot, Dioecious and Bisexual  
(4) Perennial, Dicot, Dioecious and Unisexual

18. Consider the constituents of the mulberry fruit :

<i>Constituent</i>	<i>Percent (%)</i>
A. Moisture	I. 1.5
B. Protein	II. 8.3
C. Carbohydrate	III. 87.5
D. Fat	IV. 0.5
	V. 0.4

Choose the correct answer from the options given below :

- |     | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
|-----|----------|----------|----------|----------|
| (1) | I        | IV       | V        | III      |
| (2) | V        | II       | III      | I        |
| (3) | II       | III      | V        | IV       |
| (4) | III      | I        | II       | V        |

19. The commercial propagation of mulberry is through :

- (1) Graftings  
(2) Seedlings  
(3) Cuttings  
(4) Layerings

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20. Consider the following mutagenic chemicals :

- A. Ethyl Methane Sulphonate
- B. Methyl Methane Sulphonate
- C. 1,4-Dimethyl Sulphonoxy butane
- D. 5-Bromouracil

Which of the above are used in mutation breeding of mulberry ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B, C and D

21. Consider the mulberry varieties :

<i>Variety</i>	<i>Source</i>
A. V1	I. RSRS, Coonoor
B. Viswa (DD)	II. KSSRDI, Thalaghattapura
C. MR2	III. Kanva Silk Farm, Channapatna
D. M5	IV. CSRTI, Mysuru

Choose the correct answer from the options given below :

	A	B	C	D
(1)	IV	II	I	III
(2)	I	III	II	IV
(3)	III	IV	II	I
(4)	III	I	IV	II

22. The term 'Emasculation' refers to :

- (1) Collection of stamens from male catkin
- (2) Collection of pollen from male catkin
- (3) Collection of female flowers from female catkin
- (4) Collection of male flowers from male catkin

23. The suitable soil pH for mulberry cultivation is :

- (1) 5.4 - 5.8
- (2) 6.4 - 6.8
- (3) 6.8 - 7.8
- (4) 7.8 - 8.8

24. Consider the following pairs :

<i>Mulberry Species / Varieties</i>	<i>Nativity</i>
A. <i>Morus indica</i>	- West Java ✗
B. <i>Gelso romano</i>	- Europe ✓
C. <i>Morus alba</i> L.	- India ✓
D. <i>Morus nigra</i>	- South Vietnam

How many pairs given above are correctly matched ?

- (1) Only one pair ✗
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs ✗

25. 'Seriboost' in mulberry is used as :

- (1) Chemical fertiliser
- (2) Organic manure
- (3) Green manure
- (4) Micronutrient

26. With reference to the application of fertiliser/manure in irrigated mulberry cultivation, consider the following statements :

- A. Farmyard Manure (FYM) should be applied @ 20 tonnes/ha/year as recommended for irrigated mulberry.
- B. Apply 20 kg of Azotobacter biofertiliser/ha/year in 5 split doses @ 4 kg each time after every leaf harvest/priming and inter-cultivation operations.
- C. It has also been recommended that application of 300 kg urea along with 20 kg Azotobacter helps in good growth and yield of mulberry.

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

27. The percentage of Nitrogen present in Farmyard Manure (FYM) is :

- (1) 0.01 - 0.02%
- (2) 0.02 - 0.03%
- (3) 0.03 - 0.04%
- (4) 0.3 - 0.5%

$$\frac{3}{20000} \times 100$$

100 → 3, 20000 → 60

28. Considering the diseases of mulberry, match List I with List II :

<i>List I</i>	<i>List II</i>
A. Mulberry leaf blight	I. <i>Helicobasidium mompa</i>
B. Violet root rot	II. <i>Pseudomonas mori</i>
C. Mulberry leaf spot	III. <i>Cerotelium fici</i>
D. Mulberry leaf rust	IV. <i>Cercospora moricola</i>
	V. <i>Rosellinia necatrix</i>

Choose the correct answer from the options given below :

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(1)	II	I	IV	III
(2)	I	II	III	IV
(3)	IV	V	II	III
(4)	IV	III	I	II



29. With reference to the powdery mildew disease in mulberry leaf, consider the following statements :

- A. Asexual reproduction takes place by the means of fruiting bodies called cleistothecia which give rise to conidia.
- B. During favourable conditions, the pathogen *Phyllactinia corylea* develops through germination, mycelia, conidiophores and conditions which lead to the spread of disease.
- C. The *Phyllactinia corylea* multiplies in the host only by asexual reproduction reducing the leaf quality.

Which of the above statements is/are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) B only

30. Consider the following pairs :

<i>Disease</i>	<i>Spores</i>
A. Mulberry leaf rust	- Basidiospores
B. White root rot	- Ascospores
C. Violet root rot	- Uredospores
D. Mulberry leaf spot	- Conidiophores

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

31. Match List I with List II :

<i>List I</i>	<i>List II</i>
A. Mulberry Grasshopper	I. <i>Sthenias grisator</i>
B. Mealy bugs	II. <i>Spilosoma obliqua</i>
C. Bihar hairy caterpillar	III. <i>Maconellicoccus hirsutus</i>
D. Mulberry leaf roller	IV. <i>Neorthacris acuticeps nilgiriensis</i>
	V. <i>Morganonia pulverulentalis</i>

Choose the correct answer from the options given below :

	A	B	C	D
(1)	V	IV	III	II
(2)	IV	III	II	V
(3)	II	I	IV	III
(4)	III	IV	V	II

32. The presence of the 'caudal horn' on the 8<sup>th</sup> abdominal segment of the silkworm larva is a key character of the order :

- (1) Hemiptera
- (2) Orthoptera
- (3) Lepidoptera
- (4) Thysanoptera

33. The parental cross of the silkworm Hybrid 'Kolar Gold' is

- (1) ♂ CSR-2 × PM ♀
- (2) ♂ CSR-4 × HM ♀
- (3) ♂ CSR-2 × Nirtary ♀
- (4) ♂ CSR-4 × C. Nichi ♀ ✕

34. Considering the modification of the silkworm larval mouth parts, match List I with List II :

<i>List I</i>	<i>List II</i>
<i>Body Segment</i>	<i>Mouth Parts</i>
A. Second	I. Labium
B. Fourth	II. Mandibles
C. Fifth	III. Antennae
D. Sixth	IV. Maxilla

Choose the correct answer from the options given below :

- |     | A   | B   | C   | D   |
|-----|-----|-----|-----|-----|
| (1) | III | II  | IV  | I   |
| (2) | I   | III | II  | IV  |
| (3) | IV  | II  | I   | III |
| (4) | II  | IV  | III | I   |

35. The presence of 'the Ishiwata's glands' in silkworm larvae are considered to be the genital markings on the ventral side of :

- (1) The 8<sup>th</sup> segment of male larva ✕
- (2) The 8<sup>th</sup> segment of female larva
- (3) The 8<sup>th</sup> and 9<sup>th</sup> segments of female larva
- (4) The 8<sup>th</sup> and 9<sup>th</sup> segments of male larva ✕

36. The function of the 'maxillae' in silkworm larva is:

- (1) Photoreceptor
- (2) Mechanoreceptor ✕
- (3) Chemoreceptor
- (4) Thermoreceptor ✕

37. The enzyme secreted by the silk moths of *Bombyx mori* is :

- (1) Fibrinase
- (2) Sericinase
- (3) Amylase
- (4) Cocoonase

38. The sex attractant pheromone is secreted in the silkworm *Bombyx mori* to ensure the mating from which part of the following ?

- (1) Labium of the female silk moth
- (2) Harpax of the male silk moth
- (3) *Sacculi lateralis* of the female silk moth
- (4) Ovipositor of the female silk moth

39. With reference to the anatomy of silkworm *Bombyx mori*, consider the following :

<i>Anatomical system</i>	<i>Organs</i>
A. Digestive system	- Cardiac valve ✓
B. Circulatory system	- Malpighian tubules ✗
C. Respiratory system	- Tracheoles ✓
D. Excretory system	- Ostia ✗

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

40. The juvenile hormone in silkworm *Bombyx mori* is secreted from :

- (1) The neurosecretory cells of brain
- (2) Corpora cardiaca
- (3) Corpora allata
- (4) Prothoracic glands

41. With reference to the reproductive system of female silk moth, match the following :

<i>List I</i>	<i>List II</i>
A. Ovarioles	I. Adhesive substance
B. Accessory Reproductive glands	II. Storage of sperms
C. Spermatheca	III. Synthesis of eggs
D. Bursa Copulatrix	IV. Receiving of sperms
	V. Receiving of eggs

Choose the correct answer from the options given below :

	A	B	C	D
(1)	I	IV	V	III
(2)	V	II	III	I
(3)	III	I	II	IV
(4)	II	III	I	V



42. Which part of the silk glands secretes Sericin III ?
- (1) Posterior region of the silk glands
  - (2) Middle region of the silk glands
  - (3) Posterior part of the middle region of the silk glands
  - (4) Anterior part of the middle region of the silk glands

43. Consider the following statements :

- A. The sperm is received into the female silk moth and makes internal fertilization. ✓
- B. The sperm is received into the female silk moth and is stored in the spermatheca. ✓
- C. The stored sperm enters into the egg and makes external fertilization. ✓

Which of the above statements are correct ?

- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) A, B and C

44. How many times does the silkworm increase in its weight from the day of hatching to maturity, i.e., last day of fifth instar ?

- (1) 7,000 times
- (2) 10,000 times
- (3) 6,000 times
- (4) 5,000 times

45. The silkworm larva is blind due to :

- (1) Lack of ocelli
- (2) Lack of eyes
- (3) Lack of compound eyes
- (4) Lack of sense organs

46. The cells which secrete the digestive enzymes in silkworm larva are :

- (1) The cells of Foregut
- (2) The Goblet cells
- (3) The Cylindrical cells
- (4) The cells of Hindgut

47. On which day of the embryonic development of silkworm, *Bombyx mori*, are the brain, suboesophageal ganglion and the digestive system formed ?

- (1) Four days after laying of the egg
- (2) Five days after laying of the egg
- (3) Six days after laying of the egg
- (4) Seven days after laying of the egg

48. Match the following :

<i>Tasar Ecoraces</i>	<i>Food Plants</i>
A. Daba	I. <i>Zizyphus</i>
B. Jiribam	II. <i>Hardwickia</i>
C. Raily	III. <i>Terminalia</i>
D. Belgaum	IV. <i>Shorea</i>

Choose the correct answer from the options given below :

- |     | A   | B   | C  | D   |
|-----|-----|-----|----|-----|
| (1) | I   | III | II | IV  |
| (2) | II  | I   | IV | III |
| (3) | III | I   | IV | II  |
| (4) | IV  | III | II | I   |

49. The non-susceptibility of silkworms to BmD<sub>NV</sub>-1 infection is determined by a recessive gene called :

- (1) Nid-1
- (2) nsd-1
- (3) nsd-Z
- (4) Reg-1

50. The number of the endocrine glands in silkworm are :

- (1) 5
- (2) 3
- (3) 4
- (4) 6

51. Consider the following pairs in *Bombyx mori* :

	<i>Sense Organs</i>	<i>Type of Sensation</i>
A.	Antennae	- Mechanoreceptor ✗
B.	Integument	- Photoreceptor ✗
C.	Maxillae	- Chemoreceptor ✓
D.	Compound eyes	- Thermoreceptor ✗

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

52. Match the following :

Name of the Silkworm	Chromosome Number
A. <i>Bombyx mori</i>	I. n = 28
B. <i>Bombyx mandarina</i>	II. n = 31
C. <i>Antheraea mylitta</i>	III. n = 27
D. <i>Philosamia ricini</i>	IV. n = 15
	V. n = 14

Choose the correct answer from the options given below :

	A	B	C	D
(1)	II	I	III	IV
(2)	III	II	IV	I
(3)	I	III	II	V
(4)	IV	V	I	III

53. On which day are the primary and secondary spermatogonia differentiated in the silkworm *Bombyx mori* ?

- (1) Three days after hatching
- (2) Four days after hatching
- (3) Six days after hatching
- (4) Eight days after hatching

54. The genes responsible for moulting in *Bombyx mori* are :

- (1) V-alleles
- (2) M-alleles
- (3) Lm-alleles
- (4) Autosomes

55. In silkworm *Bombyx mori*, the female sex-determining factor is present in :

- (1) 'Z' chromosome
- (2) 'W' chromosome
- (3) 10<sup>th</sup> Autosome
- (4) 12<sup>th</sup> Autosome

56. Consider the following pairs :

Silkworm Stage	Ectodermal Derivative
A. Larva	- Integument
B. Prepupa	- Scales
C. Pupa	- Chitin
D. Adult moth	- Chitin

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs



57. The thoracic ganglion in the silkworm larva gives rise to :

- (1) One pair of nerves ✓
- (2) Two pairs of nerves
- (3) Three pairs of nerves
- (4) Four pairs of nerves ✓

58. The Japanese scientists produced parthenogenetic individuals by treating the unfertilized eggs of silkworm through :

- (1) HCl with specific gravity 1.04 – 1.06 at 70 – 74° F for 4 – 6 minutes ✓
- (2) HCl with specific gravity 1.06 – 1.08 at 70 – 74° F for 8 – 10 minutes ✓
- (3) HCl with specific gravity 1.064 – 1.10 at 70 – 74° F for 4 – 6 minutes
- (4) HCl with specific gravity 1.075 – 1.10 at 70 – 74° F for 4 – 5 minutes

59. With reference to the sex-limited races in silkworm, consider the following pairs :

State	Character
A. Male larva	– Presence of dark markings in thorax ✓
B. Female larva	– Plain and no markings in thorax ✓
C. Pupa	– No markings ✗
D. Cocoon	– The females are coloured and males are plain

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

60. With reference to silkworm breeding, consider the following statements :

A. The polyvoltine races are unique characteristic features with less larval duration and resistant to diseases considered as female parent to cross with male parent of bivoltine.

✓  $\begin{matrix} \text{F} \\ \text{poly} \end{matrix}$   $\begin{matrix} \text{M} \\ \text{Bivolt} \end{matrix}$

B. However, many of the polyvoltine races may not have good combining ability with that of bivoltine races.

C. For the production of  $F_1$  Hybrids the female parent of bivoltine is crossed with the male parent of polyvoltine. The  $F_1$  hybrids of such cross are considered for commercial silk production. (Example : ♀ NB4D2 × PM ♂) ✓

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

61. Which of the following breed is evolved by CSR & TI Mysore ?

- (1) Shunrei
- (2) Kinshu
- (3) NB<sub>7</sub>
- (4) KA

62. With reference to the production of hybrids in silkworms, consider the following :

- A.  $FC_1 \times FC_2$  - Double hybrids ✓
- B.  $PM \times NB_4O_2$  - Multivoltine hybrid
- C.  $CSR-1 \times CSR-2$  - Cross breed
- D.  $PM \times FC_1$  - Poly hybrid

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

63. The pure races of silkworms have higher significance in the production of cross breeds. Consider the following statements :

- A. The pure stocks of multivoltine and bivoltine races are reared giving maximum care with recommended rearing technology. ✓
- B. Maintenance of the racial characters of such races are so important which may reflect in their  $F_1$  hybrids to get higher qualitative and quantitative characters. ✓
- C. The rearing factors may not be the major criteria to get Heterosis in the cross breeds. ✓

Which among the above statements is/are incorrect ?

- (1) A only
- (2) B only
- (3) C only
- (4) A, B and C

64. The 'Black boxing' process for the silkworm eggs is done to ensure :

- (1) early hatching.
- (2) delay in hatching.
- (3) difference in hatching.
- (4) uniform hatching.

65. In the silkworm egg production centres (Grainages), consider the following factors related to Oviposition :

- A. The success of Oviposition largely depends on the mating duration of the silk moths. Normally, mating is allowed for 3 hours to ensure two to three ejaculations essential for fertilization of eggs.
- B. The mating of male silk moths for more than 2 times with virgin females does not matter for maximum fecundity and fertilized eggs. ✓
- C. During oviposition, the de-coupled female silk moths are maintained in a semi-dark condition preferably at a temperature and humidity of  $25 \pm 1^\circ\text{C}$  and  $75 \pm 5\%$  respectively.

Which of the above factors is/are correct ?

- (1) A only
- (2) A and B only
- (3) A and C only
- (4) A, B and C



66. The National Silkworm Seed Project (NSSP) has developed the silkworm seed multiplication programme for the supply of quality layings. Choose the correct sequence of the following :

- (1) P1 → P2 → P3 → P4
- (2) P4 → P2 → P3 → P1
- (3) P4 → P3 → P2 → P1
- (4) P3 → P2 → P1

67. The orientation of the rearing house in tropical zones should be :

- (1) North - South
- (2) East - West
- (3) North - East
- (4) South - East

68. With reference to the disinfectants in silkworm rearing, consider the following pairs :

- A. Sanitech - Bed disinfectant
- B. Bleaching solution - Room disinfectant
- C. Vijetha - Bed disinfectant
- D. Sanjeevani - Room disinfectant

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

69. With reference to the 'chawki rearing' consider the following statements :

- A. The chawki worms grow extremely fast under high temperature (up to 30°C) and high humidity (up to 90%), good ventilation and fed with tender nutritious leaves.
- B. Even though the consumption of mulberry leaf is only 6% of the total feed but shows 400 times increase in body weight.
- C. For success of chawki rearing, quality of leaves and maintenance of ideal temperature and humidity plays a very significant role.

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

70. With reference to the temperature and relative humidity in silkworm rearing, consider the following pairs :

Age	Temperature	Relative Humidity
A. II Instar	27 – 28°C	85 – 90%
B. III Instar	22 – 23°C	65 – 70%
C. IV Instar	25 – 26°C	70 – 75%
D. V Instar	27 – 28°C	85 – 90%

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

71. The characteristic features of the moulting larva are :

- (1) Stops feeding, inactive, body becomes stout and shiny and head becomes dark.
- (2) Stops feeding, active, loose skin and head becomes swollen.
- (3) Stops feeding, less active, elasticity of the body and head becomes transparent.
- (4) Stops feeding, immobile, loose skin and head becomes grey in colour.

72. Which among the following is considered as ideal cocoon spinning equipment ?

- (1) Paddy straw moutage
- (2) Bottle brush moutage
- (3) Bamboo moutage Chandrika
- (4) Rotary moutage

73. The ideal time of cocoon harvesting for temperate silkworm races is :

- (1) 3<sup>rd</sup> or 4<sup>th</sup> day after spinning
- (2) 4<sup>th</sup> or 5<sup>th</sup> day after spinning
- (3) 5<sup>th</sup> or 6<sup>th</sup> day after spinning
- (4) 7<sup>th</sup> or 8<sup>th</sup> day after spinning

74. With reference to the development of *Nosema bombycis* consider the following :

- A. Mature spore – Meront – Planont – Amoebula
- B. Mature spore – Planont – Amoebula – Meront
- C. Mature spore – Amoebula – Meront – Planont
- D. Mature spore – Amoebula – Planont – Meront

Which of the above sequence is correct ?

- (1) A
- (2) B
- (3) C
- (4) D



75. With reference to the site of infection of the pathogen in silkworm diseases, match the following :

<i>Pathogen</i>	<i>Site of infection</i>
A. NPV	I. The cytoplasm of cylindrical cells of midgut
B. CPV	II. Nuclei of the columnar cells of midgut
C. IFV	III. Nuclei of the tracheal epithelial cells
D. DNV	IV. Cytoplasm of the goblet cells of midgut

Choose the correct answer from the options given below :

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(1)	I	II	III	IV
(2)	IV	III	II	I
(3)	III	I	IV	II
(4)	II	IV	I	III

76. Consider the following :

<i>Name</i>	<i>Family</i>
A. <i>Nasolynx thymus</i>	- Eulophidae
B. <i>Trichopria</i> species	- Chalcidae
C. <i>Exoristobia philippinensis</i>	- Encyrtidae
D. <i>Spilomicrus karnatakensis</i>	- Diapriidae

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs
- (4) All four pairs

77. Among the silkworm diseases, there is a disease called "nō by ō" in Japanese which is actually called :

- (1) Flacherie
- (2) Grasserie
- (3) Muscardine
- (4) Pebrine

78. With reference to the silkworm diseases, match the following :

<i>Disease</i>	<i>Causative Agent</i>
A. Nuclear polyhedrosis	I. <i>Serratia marcescens</i>
B. Red septicemia	II. <i>Beauveria bassiana</i>
C. White muscardine	III. <i>Nosema bombycis</i>
D. Pebrine	IV. <i>Borrelina bombycis</i>

Choose the correct answer from the options given below :

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(1)	I	II	III	IV
(2)	II	III	IV	I
(3)	IV	I	II	III
(4)	III	IV	I	II



79. The silkworm infected with white muscardine, unlike other diseases does **not** rot or decay but remains **hard** because :

- (1) the fungus secretes crystals of ammonium and magnesium.
- (2) the fungus secretes crystals of ammonium and calcium.
- (3) the fungus secretes magnesium and calcium.
- (4) the fungus secretes only the crystals of ammonium.

80. Which among the following is **not** considered for the biological control of uzi fly ?

- (1) *Nesolynx thymus* ✓ ✗
- (2) *Trichopria* species
- (3) *Exoristobia philippinensis*
- (4) *Trichogramma chilonis*

81. In which stage of the silkworm *Bombyx mori* is the Dermestid beetle infested ?

- (1) Egg
- (2) Larva
- (3) Cocoon
- (4) Moth

82. With reference to the sericulture extension, consider the following statements :

- A. The CSB and State sericulture organisations are giving maximum effort for improvisation in mulberry and cocoon production. ✓
- B. Creating awareness and transfer of innovative technology into the field is the prime duty of the sericulture extension personnel. ✓
- C. Apart from farm and home visit by the extension workers, other means of transferring the innovative knowledge may not be needed. ✗

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

83. With reference to the transaction of cocoons in the cocoon markets, consider the following statements :

- A. The cocoon transaction is carried out in the Government prescribed cocoon markets only. ✓
- B. Only authorised cocoon rearers and reelers are allowed to participate in cocoon transactions. The process is by open auction and e-auction in the presence of marketing officials. ✓
- C. In certain circumstances, the cocoon transaction by the reelers may not be limited beyond the amount deposited by him. ✓

Which of the above statements are correct ?

- (1) A and B only
- (2) B and C only
- (3) A and C only
- (4) A, B and C

84. Expand KSMB :

- (1) Karnataka Silk Mobilizing Board
- (2) Karnataka Silk Motivating Board ✓
- (3) Karnataka Silk Marketing Board
- (4) Karnataka Silk Modernising Board

85. Given below are two statements with respect to silk testing :

*Statement A* : Elongation is the amount of stretch when the yarn is pulled to its breaking point. ✓

*Statement B* : The apparatus used for tenacity test is serigraph. ✓

In light of above statements, choose the most appropriate answer.

- (1) Statement A is correct but Statement B is incorrect
- (2) Statement B is correct but Statement A is incorrect
- (3) Both Statement A and Statement B are incorrect
- (4) Both Statement A and Statement B are correct

86. Which of the following is not a commercial method of stifling ?

- (1) Sun drying
- (2) Hot air drying ✓
- (3) Steam stifling ✓
- (4) Cold air killing ✓



87. With reference to the steam stifling consider the following statements :

- A. Steam stifling not only kills the pupae of the cocoon, it also ensures softening of the sericin. ✓
- B. Thus, it facilitates good cocoon cooking, helps in easy unwinding of silk filaments at the time of reeling. ✓
- C. The steam stifled cocoons can be preserved for long durations up to 6 months. ✓

Which of the above statements is/are correct?

- (1) A only
- (2) B only
- (3) A and B only
- (4) A and C only

88. The pH of the reeling water is :

- (1) 6.0 - 6.2
- (2) 6.2 - 6.4
- (3) 6.4 - 6.6
- (4) 6.8 - 8.4

89. The 'Rendita is a deciding factor of :

- (1) Less cocoon quantity with higher silk production.
- (2) Higher cocoon quantity with higher silk production. ✓
- (3) Equal cocoon quantity with equal silk production.
- (4) Higher cocoon quantity with lower silk production.

90. With reference to the silk reeling machine, which among the following have higher efficiency in silk reeling process ?

- (1) Improved Charaka
- (2) Cottage Basin
- (3) Charaka
- (4) Multi-end-reeling machine ✓

91. The circumference of the small reels of multi-end-reeling machine is :

- (1) 60 - 61 cm
- (2) 65 - 70 cm ✓
- (3) 70 - 80 cm
- (4) 80 - 85 cm

92. With reference to the reeling devices in reeling machines, consider the following pairs :

Reeling Devices	Function
A. Jettebout	- Feeding/casting of silk filaments
B. Button	- Feeding of silk filaments
C. Traverse	- Passing silk thread through hole ✓
D. Reel	- Winding of silk filaments ✓

How many pairs given above are correctly matched ?

- (1) Only one pair
- (2) Only two pairs
- (3) Only three pairs ✓
- (4) All four pairs



93. Which of the following silk tests are conducted in Seriplane machine ?

- (1) Evenness variation test
- (2) Tenacity and elongation test
- (3) Winding test
- (4) Cohesion test

94. The correct sequence of the silk throwing process is :

- (1) Reeling → Doubling → Twisting → Re-winding
- (2) Winding → Doubling → Twisting → Re-winding
- (3) Winding → Re-winding → Doubling → Twisting
- (4) Doubling → Winding → Twisting → Re-winding

95. The widthwise/horizontal threads in the fabric are :

- (1) Warps
- (2) Wefts
- (3) Pirn
- (4) Shuttle

96. The liquor ratio in silk dyeing process is :

- (1) 1 : 20
- (2) 1 : 30
- (3) 1 : 40
- (4) 1 : 50

97. The parentage of FCI Bivoltine silkworm hybrid is :

- (1) CSR 6 × CSR 26
- (2) CSR 2 × CSR 27
- (3) BL 67 × CSR 101
- (4) CSR 2 × CSR 4

98. In relevance to the equipment of non-mulberry silkworms, match the following :

Equipment	Function
A. Chaloni	I. Spinning equipment
B. Khora	II. Coupling of male and female moths
C. Khorika	III. Collection of ripened worms
D. Jali	IV. Transferring of worms
	V. Moth cage

Choose the correct answer from the options given below :

	A	B	C	D
(1)	I	II	III	IV
(2)	V	I	IV	III
(3)	IV	III	II	I
(4)	III	V	IV	II

99. Which among the following, in silkworm, is considered as plasmid in Recombinant DNA Technology ?

- (1) *Nosema bombycis*
- (2) NPV
- (3) *Beauveria bassiana*
- (4) *Aspergillus flavus*

100. The indigenous silkworm race Moria is from :

- (1) West Bengal
- (2) Assam
- (3) Karnataka
- (4) Jammu and Kashmir