



WOLLO UNIVERSITY (KUOT)

TEXTILE ENGINEERING DEPARTMENT

HOLISTIC EXAMINATION FOR FOURTH YEAR STUDENTS

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GENERAL INSTRUCTION: CHOOSE THE CORRECT ANSWER IN THE SPACE PROVIDED (1 mark each)

1) The Flyer speed in roving frame

A) Keeps on increasing as the bobbin builds up

B) Keeps on decreasing as the bobbin

☒ C) Does not change at all bobbin

☐ D) it changes with the speed of the

2) Typical draft given in roving frame is

☒ A) 5-20

B) 2-5

C) 25-35

D) 35 and above

3) the most critical aspect in ring spinning which limits the spindle speed is

A) The drafting system

B) The overhead cleaning system

C) The builder mechanism

☒ D) The ring and traveler system

4) The spindle top inserts are used in roving frames to introduce

☒ A) Real twist in the roving

B) Real draft in the roving

☒ C) False twist in the roving

D) False draft in the roving

5) Which statement is true about false draft?

☒ A) The cause of false draft is breakage.

☒ B) False draft does not affect yarn evenness

☒ C) Mostly false draft occurs at creel zone

D) false draft occurs only on roving frame

6. Having wider spinning triangle

A) Decreases the hairiness of the yarn

☒ B) Increases the hairiness of the yarn

C) Increases the mass uniformity of the yarn

D) Increases the strength of the yarn

7. Which of the following yarn have the best mass evenness?

☒ A) Ring spun yarn ☒ B) Friction spun yarn C) Rotor spun Yarn D) Vortex spun yarn

8) As we increase the yarn twist, the yarn strength

☒ A) Increases steadily ☒ B) Increases up to a point and then decreases

C) Decreases steadily D) Decreases up to a point and then increases.

9 Which one of the following is the main requirement of fiber forming polymer?

- A. Linear polymer
- B. Parallel arrangement of the molecules
- C. Intermolecular forces
- D. Chemical structure and presence of secondary forces
- ☒ E. All of the above
- F. C & D

10) Which one of the following **does not** describes the basic difference between Thermoplastic and Thermoset Polymer?

- ☒ A. Thermoplastic polymers do not soften and melt on heating; whereas thermoset soften and melt.
- B. Thermoplastic polymer is formed by addition polymerization whereas thermoset formed by condensation polymerization.
- C. Thermoplastic polymer can be remolded, recast and reshaped; whereas thermoset polymer cannot be remoulded or reshaped.
- D. Thermoplastic polymer has usually linear structures; whereas thermoset polymer has three dimensional cross linked structures.
- ☒ E. Thermoplastic polymer are less brittle and soluble in some organic solvents; whereas thermoset polymer more brittle and insoluble in organic solvents.

11) Which one of the following factors affects glass transition temperature of polymer?

- A. Chain flexibility
- B. Polarity
- C. Rigidity
- D. Molecular weight
- ☒ E. All of the above
- F. B & D

12) Which one of the following alternatives is **not true** about copolymerization in polymer?

- A. It is a polymerization reaction in which a mixture of more than one monomeric species is allowed to polymerise and form a copolymer.
- B. The copolymer can be made by both chain growth and step growth polymerization.
- C. It contains multiple units of each monomer used in the same polymeric chain.
- ☒ D. Copolymers have properties the same to homopolymers.
- E. None of the above

13) Among the following alternatives, which one describes the basic difference between amorphous and crystalline region in polymers?

- A. Crystalline region occur when several polymer molecules are oriented parallel to each other.
- B. In crystalline region weak inter-chain forces hold the molecule together conferring strength on the polymer.
- C. Amorphous region occur when the polymer molecule are not sufficiently close to each other for the inter-chain forces to operate.
- D. Completely amorphous polymers exhibit only T_g , while polymers with both crystalline and amorphous domains will show all features T_g , T_c and T_m .
- E. All of the above

☒ F. A & C

14) Among the following alternatives, which type of fiber is different from other?

- A. Polyester
- ☒ B. Silk
- C. Nylon
- D. Acrylic
- E. Polypropylene
- F. None

15) One of the following is **not** the advantage of blending of textile fibers?

- A. To improve process ability and spinning performance.
- B. To produce an end product with characteristics unattainable from one component.
- ☒ C. To increase the cost of raw material.
- D. To compensate for variations in the characteristics of the raw materials.
- E. To achieve special effects by varying colour, fiber characteristics, etc.
- F. None of the above

16) Which one of the following is not true about the general characteristics of vegetable natural fiber?

- A. Tend to burn easily
- ☒ B. Lower absorbency
- C. Most wrinkle easily
- D. Good conductors of heat and electricity
- E. Holds dye poorly and fade easily
- F. Predominantly Cellulose

17) In which of the following process we can save more fabric?

- A) Pattern making
- ☒ B) Sewing
- ☒ C) Marker making
- D) Spreading

18) which one of the following operation requires more labor force?

- A) Cutting
- ☒ B) Sewing
- C) Spreading
- D) Finishing

19) The tenacity of a textile fiber is actually:

- A) The ratio of the load applied to the cross sectional area of the fibre.
- B) The ratio of the load applied to the linear density of the fibre.
- ☒ C) The ratio of the breaking load to the linear density of the fibre.
- D) The ratio of the breaking stress to the breaking strain.
- E) The ratio of the breaking elongation to the initial length.

20) Which statement among the following is correct about finer fibres?

- A) Finer fibres offer less resistance to twisting because their torsional is high.
- B) Finer fibres offer more resistance to twisting because their torsional rigidity is low.
- C) Finer fibres offer less resistance to bending because their flexural rigidity is high.
- D) Finer fibres offer more resistance to bending because their flexural rigidity is low.
- ☒ E) Finer fibres offer less resistance to twisting because their torsional rigidity is low.

21) If the distance between drafting rollers in any particular drafting zone kept more longer than a given 2.5% SL(span length) of the fibers being processed, then which among the following problems is likely to occur?

- A) Most of the shorter fibers will be broken unnecessarily.
- B) Most of the longer fibers will be broken unnecessarily.
- ☒ C) Most of the longer fibers will become floating fibers.
- ☒ D) Most of the longer and shorter fibers will be broken unnecessarily.
- E) Only the shorter fibers will become floating fibers.

22) Read the following statement carefully and which one is false:

- A) The seam line for sample meant for snagging and pilling should always be marked on the back of the samples in order to always expose the face of the samples for the tests.
- B) The elongation fabric sample in a tensile strength test is due to a difference in the movements of upper and lower jaws.
- ☒ C) Fabric samples with higher bending length are said to be less softer than those with a comparatively lower bending length.
- ☒ D) In a bursting strength test, a particular test is performed two times since in the first case we get pressure for bursting the fabric and the diaphragm and in the second case we burst only the diaphragm without the fabric.
- E) The diameter of the sample in a bursting strength test should be slightly more than the diameter of the clamp meant for fixing the sample.

23) Which among the following is a characteristic feature of hop sack weave?

- A) Rib lines extending in the warp way direction.
- B) Diagonal lines extending across the fabric.
- ☒ C) Basket like appearance
- D) Rib lines extending in the weft direction.
- E) Extended floats.

24) Which among the following weaves is characterized by hollows and ridges?

- A) Pointed twill

- B) Matt weave
- C) Broken twill
- ☒ D) Honey comb weave
- E) Sateen weave

25) The fabric which is generally woven face down instead of face up on a loom is:

- ☒ A) Plain fabric
- B) Twill fabric
- ☒ C) Satin fabric
- ☒ D) Sateen fabric
- E) Hopsack

26) Lifting plan in a design is generally used to indicate :

- A) Number of heald shaft required for the design.
- B) Order of drawing in of ends through the healds.
- C) Number of picks required in a given repeat of the design.
- ☒ D) Lifting order of picks for successive ends.
- E) Shedding order of healds.

27) The compactness of a wound package on a winding machine is mainly due to the presence of:

- A) Yarn clearer
- B) Unwinding accelerator
- C) Traverse device
- ☒ D) Tensioner
- E) Waxing device

28) Which among the following is true for a winding machine with drum packages?

- A) Yarns like silk and nylon can be conveniently wound on it
- B) Yarns like cotton cannot be wound on it
- C) The surface speed of the package remains constant with a change in its diameter
- ☒ D) The surface speed of the package changes with its diameter, needing a differential
- E) None of these

29) The main objective of leasing on a high speed sizing machine is:

- A) To minimize the yarn tension and end breaks
- B) To get a beam with required compactness
- C) To control the yarn stretch
- ☒ D) To separate the sticky ends
- E) To get the required warp length on the beam

30) Penetration of 'size' into the yarn and removal of excess size from the sizing machine is mainly done out by:

- A) Draw roll
- ☒ B) Squeeze roll
- ☒ C) Size roll
- D) Immersion roll
- E) Drying cylinder

- 31) Wedge shaped drum on a sectional warping machine is mainly used:
- A) To minimize the occurrence of end breaks
 - B) To prevent the abrasion of ends in sections
 - C) To prevent the entanglement of adjacent sections
 - D) To identify the broken ends easily
 - ☒ E) To prevent the section edges from falling
- 32) If we manage to use a very large size creel with a capacity of 1000 cones on a beam warping machine, which one of the following will be true:
- A) Number of end breaks will be very high owing to increased yarn tension
 - B) The quality of the beam increases due to increased creel capacity
 - C) Efficiency of warping increases due to more no of ends
 - ☒ D) The winding time of each beam will increase due to more number of ends
 - ☒ E) both b & c are correct
- 33) One of the following is the improving and non-repetitive maintenance type
- A) Routine maintenance
 - B) Remedial maintenance
 - ☒ C) Restorative maintenance
 - D) Predictive maintenance
- 34) which one of the following is not the function of lubrication?
- A) Reduce friction and wear
 - B) Dampen shock
 - C) Seal out dirt
 - ☒ D) Generate sticky surface
- 35) Which one of the following is true about maintenance?
- A. Maintenance is carried out to preserve an asset to enable its continued uses and functions.
 - B. Maintenance is used to repair unscheduled and scheduled deficiencies
 - C. Maintenance is not only repair action but also improvement and modification.
 - ☒ D. All of the above is true.
 - E. All of the above is true except B
- 36) In general, the objectives of maintenance are primary and secondary objectives. Among the following, which one of the following objective is not include in primary objectives.
- A. To run machines at maximum operating speed
 - B. To increase production and productivity
 - ☒ C. To minimize machine breakdown and cost of maintenance
 - D. To increase best level of quality of the products
 - E. None
- 37) which one of the following is relatively the best motion transmission?
- A) Rope drive
 - B) Belt drive
 - ☒ C) Chain drive
 - D) All
- 38) which one of the following is not true about principle of mechanism?
- ☒ A) It modifies mechanical work
 - ☒ B) It is the skeleton outline of a machine

- C) It produce definite motion between various links
- D) It transmit and modifies motion

39) among the following areas of textile mill, one is not the section where roller weighting or pressure is applied?

- A) On cotton passing through drafting roller
- B) On cotton passing through feed roller in blow room
- C) In winding packages against drum
- D) In between sizing beams in the size box to squeeze out the excess size

☒ E) None

40) Assume you are an expert in both textile and maintenance. The company ordered you that purchase different types of lubricants for different machines. Then, what are the factors that you used to determine the selection of lubricants in order to purchase proper lubricants to the required machines.

- A. Operating Speed
- B. Load of the equipments
- C. Operating Temperature
- D. External and internal Environment

☒ E. All of the above

41) One of the following is removed by bleaching

- ☒ A) Pectin
- B) Starch
- C) Pigment
- D) Oil

42) One of the following is not a mechanical preparatory process

- A) Singeing
- ☒ B) Bleaching
- C) Brushing
- ☒ D) All

43) The objective of degumming is to:

- A) Improve luster
- B) Improve whiteness
- C) Improve softness
- ☒ D) All

44) In any wet processing penetration of chemicals to substrate is improved by adding

- ☒ A) 1) Wetting Agent
- B) 2) Leveling Agent
- ☒ C) 3) Sequestering Agent
- D) 4) Emulsifying Agent

45) One of the following is true

- ☒ A) Reactive dyes need much amount of salt than direct dyes
- B) Reactive dyes need less amount of leveling agent than direct dyes

C) Basic dyes need retardant to apply on acrylic
D) All

46) Chemicals that inhibit the growth of microorganisms are known as

A) Biofixes

B) Biostat

C) Biocides

D) Biocells

47. Number of binding zones of a knitted loop is

A) 2

B) 4

C) 6

D) 8

48. Because of design, of all the needles

A) The latch needle is thickest and requires lowest amplitude of motion

B) The bearded needle is finest and requires highest amplitude of motion

C) The compound needle is finest and requires lowest amplitude of motion

D) The latch needle is nearly as thick as compound needle and requires the highest amplitude of motion

49. Yarn property that affects the knitted fabric feel and appearance most is

A) Yarn extensibility

B) Yarn regularity

C) Yarn strength

D) Yarn coefficient of friction

50. In warp knitting

A) Fabric is formed by forming loops and intermeshing in course wise

B) Fabric is formed by forming loops and intermeshing in wale wise

C) Fabric is formed by forming loops and intermeshing in alternate order of wale and course

D) B and C