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TEST BOOKLET

Sl. No: 10655

Post Code : CB

Post : T. G. T. (CBZ)

WRITTEN EXAMINATION FOR RECRUITMENT TO THE POSTS OF  
TGT(ARTS), TGT (PCM), TGT (CBZ), HINDI TEACHERS, CLASSICAL  
TEACHERS (SANSKRIT), URDU TEACHERS AND P.E.Ts IN  
NON-GOVT. FULLY AIDED HIGH SCHOOLS OF ODISHA

Time Allowed: 2 Hours

Maximum Marks: 150

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET CONTAINS 16 PAGES AND DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. DON'T BREAK OPEN THE SEAL OF THE TEST BOOKLET UNTIL THE INVIGILATOR INSTRUCTS YOU TO DO SO.
3. You have to enter your Roll No. on the Test Booklet in the Box provided alongside. DO NOT write anything else on the Test Booklet. You have to do rough work only in the space provided at the end of the Test Booklet. See instructions in the OMR Answer Sheet.

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4. The Test Booklet contains 100 questions. Each question comprises four options. You have to select the correct answer which you want to mark (darken) on the OMR Answer Sheet. In any case, choose ONLY ONE answer for each question. If more than one answer is darkened, it will be considered wrong.
5. You have to mark (darken) all your answers only on the OMR Answer Sheet using BLACK BALL POINT PEN provided by the State Selection Board. You have to do rough work only in the space provided at the end of the Test Booklet. See instructions in the OMR Answer Sheet.
6. All questions carry equal marks. While 1.5 markss will be awarded for each correct answer, each wrong answer will result in negative marking of 0.50 mark.
7. Before you proceed to mark (darken) the answers in the OMR Answer Sheet to the questions in the Test Booklet, you have to fill in some particulars in the OMR Answer Sheet as per the instructions in your Hall Ticket (Admit Card).
8. On completion of the Examination, you should hand over the original copy of OMR Answer Sheet issued to you to the Invigilator before leaving the Examination Hall. You are allowed to take with you the candidate's copy (second copy) of the OMR Answer Sheet along with the Test Booklet for your reference.
9. No candidate shall be allowed to leave the Examination Hall / Room till all OMR Answer Sheets have been collected by the invigilator.

Candidate's full signature

Invigilator's signature

P.T.O.

SEAL



1. Which of the following is most appropriate to the process of learning ?
  - (A) Remembering the information for reproducing in the examination.
  - (B) Integration of old and new experiences.
  - (C) Carrying out activities which cause permanent changes of behaviour in learners.
  - (D) Acquisition, retention and modification of experiences.
  
2. Learning outcomes refer to :
  - (A) Change in the behaviour of the learners.
  - (B) Completion of the entire course content.
  - (C) Selection of proper teaching methods.
  - (D) Creation of good learning environment.
  
3. Learning objectives relate to :
  - (A) Learning experiences.
  - (B) Academic achievement.
  - (C) Intended learning outcomes.
  - (D) Learning environment.
  
4. Who of the following has put forward the concept of becoming a fully functioning person?
  - (A) Carl Jung
  - (B) Jean Piaget
  - (C) Allport
  - (D) Carl Rogers
  
5. In a constructivist class room situation, the learner is viewed as :
  - (A) Blank Slate whose life is shaped entirely by the teacher.
  - (B) A passive person who can be shaped and moulded into any form through conditioning.
  - (C) A problem solver and a scientific investigator.
  - (D) A miniature adult.
  
6. Which of the following is a characteristic of social constructivist approach to learning?
  - (A) Emphasis on child's cognition for learning.
  - (B) Emphasis on processing of information for learning.
  - (C) Emphasis on collaboration with others for learning.
  - (D) Emphasis on experiences for learning.
  
7. A learner works hard to secure first position in the class. Which type of motivation is there behind such hard work?
  - (A) Intrinsic motivation
  - (B) Extrinsic motivation
  - (C) Zero motivation
  - (D) None of the above



8. Which of the following is applicable for a classroom teacher in teacher - centred approach to learning?
- (A) Teacher is active and controls all classroom activities.
  - (B) Teacher makes the learner active.
  - (C) Learner acts and the teacher facilitates learning.
  - (D) All of the above.
9. Which of the following is a characteristic of a learner - centred class?
- (A) Learners are passive recipients of learning promoted by the teacher.
  - (B) Emphasis on completion of courses by teacher.
  - (C) Learners construct their own knowledge and teacher functions as guide in the learning process.
  - (D) Teacher transmits the information to the learners as they know little.
10. Which of the following is not a projected teaching aid?
- (A) OHP
  - (B) Epidiascope
  - (C) Black board
  - (D) Slide projector
11. Which of the following is not an appropriate criterion for selection of TLMs?
- (A) Selection of materials aligned with the curriculum and learning objectives.
  - (B) Selection of materials based solely on their availability in the market.
  - (C) Choosing materials that promote hands on learning for ensuring active engagement of learners.
  - (D) Selection of age-appropriate materials relevant for content and fostering inclusivity.
12. Which of the following is most relevant from the point of view of inclusive education?
- (A) Providing integrated education to every student.
  - (B) Providing education to every student irrespective of caste, creed and disability.
  - (C) Providing equal opportunities to every student in curricular as well as co-curricular activities irrespective of disability, caste and creed.
  - (D) Providing education to the disabled children only by special teachers and counsellors.
13. Which of the following is an objective of CCE?
- (A) Emphasising continuity and regularity of assessment.
  - (B) Assessing both scholastic and co-scholastic aspects of learners by making assessment an integral part of learning.
  - (C) Emphasising thought process and de-emphasising memorisation.
  - (D) All of the above.

14. Which of the following rightly defines the concept of evaluation?
- (A) Evaluation is quantitative.  
(B) Evaluation is qualitative.  
(C) Evaluation is both quantitative and qualitative.  
(D) Evaluation is quantitative and / qualitative plus value judgement.
15. Evaluation which is conducted during the period of instruction is called as:
- (A) Placement evaluation (B) Formative evaluation  
(C) Diagnostic evaluation (D) Summative evaluation
16. Which of the following types of assessment is not related to teaching learning process?
- (A) Achievement assessment (B) Clinical assessment  
(C) Remedial assessment (D) Continuous assessment
17. Which of the following is not an objective of formative assessment?
- (A) To know about child's misconceptions.  
(B) To assess child's understanding of the construction of knowledge.  
(C) To introduce a new concept based on the previous knowledge.  
(D) To know if a teaching strategy is appropriate or not.
18. Which of the following assessments in EVS is appropriate in the context of formative evaluation?
- Option:
- (1) Assessment for learning (2) Assessment of learning  
(3) Assessment as learning (4) Assessment about learning
- Answer :
- (A) 1,2,3 (B) 1 and 3  
(C) 2 and 3 (D) 2,3,4
19. Which of the following is not a characteristic of teacher – made test?
- (A) It is meant for specific small set of students in a class or schools.  
(B) Judgement of the teacher is the only criterion for selection of items to be included in the test.  
(C) Validity and reliability of the test are not ensured using statistical techniques.  
(D) It is meant for comparing the levels of attainment of large groups with norms.
20. Classroom interactions can be appropriately assessed by which of the following tools?
- (A) Questionnaire (B) Observation  
(C) Interview (D) Test

21. Why is blue print used in test construction?
- (A) To make the questions easy and simple.  
 (B) To include different types of questions from different content areas.  
 (C) To reduce subjectivity in evaluation.  
 (D) To make easy and error free evaluation.
22. What is the sequence of developing a standardised test?
- Option :
- (1) Planning the test. (2) Trying out the test  
 (3) Preparing the test (4) Evaluating the test
- Answer :
- (A) 1,2,4,3 (B) 3,2,1,4  
 (C) 1,3,2,4 (D) 4,1,2,3
23. While developing a test, item analysis is made to find out:
- (A) Level of item difficulty (B) Index of discriminatory power  
 (C) Nature of distractors (D) All of the above
24. Which of the following is/are the characteristic(s) of a good test?
- (A) Validity (B) Reliability  
 (C) Usability (D) All of the above
25. The highest number of molecules is in :
- (A) 28g of CO (B) 46g of C<sub>2</sub>H<sub>5</sub>OH  
 (C) 36g of H<sub>2</sub>O (D) 54g of N<sub>2</sub>O<sub>5</sub>
26. In standardisation of Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> using K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> by iodometry, the equivalent wt. of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> is :
- (A)  $\frac{\text{Molecular wt.}}{2}$  (B)  $\frac{\text{Molecular wt.}}{3}$   
 (C)  $\frac{\text{Molecular wt.}}{6}$  (D) Same as Molecular wt.



27. In the equation of state of an ideal gas  $PV = nRT$ , the value of universal gas constant would depend only on :
- (A) the nature of the gas                      (B) the units of measurement  
(C) the pressure of the gas                    (D) the temperature of the gas
28. Equal masses of methane and oxygen are mixed in an empty container at  $25^\circ\text{C}$ . The fraction of the total pressure exerted by oxygen is :
- (A)  $\frac{1}{3}$     (B)  $\frac{1}{2}$   
(C)  $\frac{2}{3}$     (D)  $\frac{1}{3} \times \frac{273}{298}$
29. The correct expression for the determination of molecular mass of solute by osmotic pressure measurement is :
- (A)  $m = \frac{wRT}{PV}$     (B)  $m = \frac{RT}{wPV}$   
(C)  $m = \frac{PRT}{wV}$     (D)  $m = \frac{wPV}{RT}$
30. The total number of 'm' values for  $l = 3$  are :
- (A) 5    (B) 7  
(C) 3    (D) 9
31. How many unpaired electrons are there in  $\text{Ni}^{2+}$ ?
- (A) Zero    (B) 8  
(C) 2    (D) 4
32. Which one of the following is the correct order of the size of the iodine species?
- (A)  $\text{I} > \text{I}^+ > \text{I}^-$     (B)  $\text{I} > \text{I}^- > \text{I}^+$   
(C)  $\text{I}^+ > \text{I}^- > \text{I}$     (D)  $\text{I}^- > \text{I} > \text{I}^+$
33. What is the shape of  $\text{PCl}_5$  molecule?
- (A) Octahedral    (B) Square planar  
(C) Pyramidal    (D) Trigonal bipyramidal
34. What is the bond order of CO molecule?
- (A) 0    (B) 1  
(C) 3    (D) 2

35. The correct order of electron affinities of halogens is :
- (A)  $F > Cl > Br > I$  (B)  $I > Br > Cl > F$   
 (C)  $Cl > F > I > Br$  (D)  $Cl > F > Br > I$
36. When reacts with dil. NaOH under cold condition, the oxidation state of chlorine changes from zero to :
- (A)  $-1$  and  $+1$  (B)  $+1$  and  $+4$   
 (C)  $+5$  and  $+3$  (D)  $-1$  and  $+5$
37. Solubility of AgCl at  $20^{\circ}\text{C}$  is  $1.435 \times 10^{-3}$  gm per litre. The solubility product of AgCl is :
- (A)  $1 \times 10^{-5}$  (B)  $1 \times 10^{-10}$   
 (C)  $1.435 \times 10^{-5}$  (D)  $108 \times 10^{-3}$
38. An acidic buffer can be prepared by mixing solutions of :
- (A) Sodium acetate and acetic acid  
 (B) Ammonium chloride and ammonium hydroxide  
 (C) Sulphuric acid and sodium sulphate  
 (D) Sodium chloride and sodium hydroxide
39. Which one of the following liquid pairs shows a positive deviation from Raoult's law?
- (A) Water-Hydrochloric acid (B) Benzene-Methanol  
 (C) Water-Nitric acid (D) Acetone-Chloroform
40. Among the following the molecule with highest dipole moment is :
- (A)  $\text{CH}_3\text{Cl}$  (B)  $\text{CH}_2\text{Cl}_2$   
 (C)  $\text{CHCl}_3$  (D)  $\text{CCl}_4$
41. The presence of unsaturation in an organic compound can be tested with :
- (A) Schiff's reagent (B) Tollen's reagent  
 (C) Baeyer's reagent (D) Fehling's solution
42. In the sulphonation of benzene, the active species involved is :
- (A)  $\text{HSO}_4^-$  (B)  $\text{SO}_3$   
 (C)  $\text{SO}_2$  (D)  $\text{SO}_4^{2-}$
43. The function of anhydrous aluminium chloride in Friedel-Craft's reaction is to :
- (A) absorb water (B) produce a nucleophile  
 (C) produce an electrophile (D) absorb hydrochloric acid

44. Galena is an ore of :
- (A) Zn (B) Cu  
(C) ~~Pb~~ (D) Mg
45. Copper is generally purified by :
- (A) Liquefaction (B) ~~Bessemerisation~~  
(C) Zone refining (D) Electrolytic method
46. Which of the following compounds does not form carbanion with sodium ethoxide?
- (A)  $\text{CH}_3\text{COCH}_2\text{COOC}_2\text{H}_5$  (B)  $(\text{CH}_3)_3\text{C}\cdot\text{COOC}_2\text{H}_5$   
(C)  $\text{H}_2\text{C}(\text{COOC}_2\text{H}_5)_2$  (D)  $\text{H}_2\text{C} \begin{matrix} \text{CN} \\ \text{COOC}_2\text{H}_5 \end{matrix}$
47. Aluminothermic process of reduction is used for the extraction of :
- (A) Cu (B) ~~Fe~~  
(C) Ti (D) Mg
48. The compound that is most reactive towards electrophilic nitration is :
- (A) Toluene (B) Benzene  
(C) ~~Benzoic acid~~ (D) Nitrobenzene
49. The compound which gives the most stable carbonium ion on acidic dehydration is :
- (A)  $\text{CH}_3-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_2-\text{OH}$  (B)  ~~$\text{CH}_3-\overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}}-\text{OH}$~~   
(C)  $\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{OH}$  (D)  $\text{CH}_3-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{CH}_3$
50. According to Binomial System of nomenclature of plants, each plant name consists of two parts. Which of the following is one of those?
- (A) ~~Genus~~ (B) Order  
(C) Class (D) Family
51. Who proposed 'five-kingdom system' of classification?
- (A) C. Linnaeus (B) G. Bentham  
(C) ~~R. H. Whittaker~~ (D) J. Hutchinson



52. Which one is not a characteristic feature of Gymnosperms?
- (A) Archegonia lack neck canal cells  
 (B) Pollen grains fall on stigma, germinate and produce pollen tubes  
 (C) Xylem vessels are absent  
 (D) Phloem lacks companion cells
53. Which one of the following is considered as the most endangered plant?
- (A) *Oryza sativa*  
 (B) *Trigonella foenum-graecum*  
 (C) *Clorophytum malabaricum*  
 (D) *Commelina benghalensis*
54. Which is not a part of anatomy of dicot stem?
- (A) Vascular tissue  
 (B) Cortex  
 (C) Pericycle  
 (D) Epiblema
55. Which is not a type of meristem based on plane of division?
- (A) Mass meristem  
 (B) Circular meristem  
 (C) Plate meristem  
 (D) Rib meristem
56. Which is not a photosynthetic pigment?
- (A) Carotene  
 (B) Phycobillin  
 (C) Xanthophyll  
 (D) Laminarin
57. The reaction centre of Photosystem-1 is \_\_\_\_\_.
- (A) P<sub>700</sub>  
 (B) P<sub>680</sub>  
 (C) P<sub>430</sub>  
 (D) Cyt. b<sub>559</sub>
58. During C<sub>3</sub> cycle, Carboxylase enzyme catalyzes joining of CO<sub>2</sub> with \_\_\_\_\_.
- (A) Ribulose  
 (B) Ribulose Biphosphate  
 (C) Ribose  
 (D) Xylulose
59. What is the first stable product after joining of atmospheric CO<sub>2</sub> with PEP in case of CAM Plants?
- (A) Citrate  
 (B) Malate  
 (C) Oxaloacetate  
 (D) Fumarate
60. Which cell organelle is not involved in photorespiration?
- (A) Chloroplast  
 (B) Peroxisome  
 (C) Mitochondrion  
 (D) Glyoxysome

61. Which one is wrong regarding growth of plants?
- (A) Plants show all-round (or diffused) growth  
 (B) Plants exhibit intercalary growth  
 (C) Plants may have lateral growth  
 (D) Plants show apical growth
62. Which one is a synthetic auxin?
- (A) 2,4 Dichlorophenoxy Acetic Acid                      (B) Indole 3 Acetic Acid  
 (C) Indole 3 Pyruvic Acid                                      (D) Indole 3 Acetaldehyde
63. Which one is better known for its positive effects on ripening of fruits?
- (A) Abscisic Acid    (B) Gibberellin  
 (C) Ethylene    (D) Cytokinin
64. The process of development of egg into embryo without fertilization is called \_\_\_\_.
- (A) Apogamy    (B) Apospory  
 (C) Vegetative development                                      (D) Parthenogenesis
65. Which one is not a type of layering method under artificial vegetative propagation of angiosperms?
- (A) Simple layering     (B) Air layering  
 (C) Aquatic layering    (D) Mound layering
66. Conidia are produced on conidiophores in \_\_\_\_.
- (A) *Saccharomyces* sp.    (B) *Aspergillus* sp.  
 (C) *Saprolegnia* sp.    (D) *Puccinia* sp.
67. Which one is not one of the applications of Auxins?
- (A) Shortening of internodes  
 (B) Apical dominance  
 (C) Substitute for cold treatment for promotion of flowering  
 (D) Prevention of lodging
68. Triple fusion in angiosperms involves fusion of \_\_\_\_.
- (A) Two polar nuclei and one sperm nucleus  
 (B) One egg nucleus and two polar nuclei  
 (C) Two sperm nuclei and one egg nucleus  
 (D) One polar nucleus, one egg nucleus and one sperm nucleus

69. In tissue culture, which one is not commonly used for regeneration of plants?  
 (A) Meristem tissue (B) Sclerenchyma tissue  
 (C) Embryo (D) Anther
70. How many genotypes are produced in Mendelian monohybrid cross?  
 (A) 1 (B) 2  
 (C) 3 (D) 4
71. In Complementary gene interaction, Mendelian ratio 9:3:3:1 gets modified to \_\_\_\_.  
 (A) 9 : 7 (B) 9 : 3 : 4  
 (C) 13 : 3 (D) 15 : 1
72. How many pairs of contrasting characters of Pea pod were chosen by Mendel for his experiments?  
 (A) 7 (B) 5  
 (C) 4 (D) 2
73. Late Blight of Potato disease is caused by \_\_\_\_.  
 (A) *Albugo* (B) *Phytophthora*  
 (C) *Claviceps* (D) *Ustilago*
74. Which one of the following is the pathogen in case of Black Stem Rust of wheat?  
 (A) *Penicillium* (B) *Peronospora*  
 (C) *Peziza* (D) *Puccinia*
75. In five kingdom classification *Chlorella* and *Chlamydomonas* fall under" :  
 (A) Algae (B) Plantae  
 (C) Monera (D) Protista
76. Which phylum is first to show cephalization?  
 (A) Annelida (B) Coelenterata  
 (C) Platyhelminthes (D) Mollusca
77. A segment of DNA has 250 Thymine and 250 Guanine bases. The total number of nucleotides present in the segment is :  
 (A) 250 (B) 500  
 (C) 1000 (D) 2000
78. The small subunit of 70S ribosome is comprised of :  
 (A) 5S r-RNA (B) 16S r-RNA  
 (C) 23S r-RNA (D) 18S r-RNA



79. Complete linkage is observed in :
- (A) Male Drosophila (B) Female Drosophila  
(C) Birds (D) Lizards
80. A cruciform structure of chromosome during meiosis is a characteristic feature of :
- (A) Translocation (B) Inversion  
(C) Deletion (D) Duplication
81. When two mutants having the same phenotype were crossed the progeny obtained showed a wild type phenotype. Thus the mutations are :
- (A) Allelic (B) Non-allelic  
(C) Segregating from each other (D) Independently assorting
82. Who wrote the book "Evolution : The Modern Synthesis" ?
- (A) T. Dobzhansky (B) G. L. Stebbin  
(C) J. B. S. Haldane (D) J. Huxley
83. Genetic drift is change in the allele frequency of population due to :
- (A) Random chance (B) Non-random mating  
(C) Natural selection (D) Artificial selection
84. Species diversity within a living community is known as :
- (A) Alpha diversity (B) Beta diversity  
(C) Gamma diversity (D) Genetic diversity
85. Which of the following statement is not correct?
- (A) Classical smog occurs in a cool and humid climate  
(B) Classical smog is also known as London smog  
(C) Los Angel's smog occurs in the sunny and dry climate  
(D) Photochemical smog is reducing in nature

86. All are true about milk as a diet except :
- (A) It is low in iron content but rich in calcium, sodium and potassium  
 (B) The major carbohydrate is lactose  
 (C)  The chief proteins are caseinogen and lactalbumin  
 (D) It is rich in Vitamin-D but poor in Riboflavin
87. Conversion of pyruvate to Acetyl-CoA is a multistep sequence of reactions which requires :
- (A) Three major enzymes and two coenzymes  
 (B) Three major enzymes and five coenzymes  
 (C) Two major enzymes and five coenzymes  
 (D) Three major enzymes and four coenzymes
88. The product formed in the first substrate level phosphorylation in glycolysis is :
- (A)  1, 3 - biphosphoglycerol (B) 3 - phosphoglycerate  
 (C) 2 - phosphoglycerate (D) Phosphoenolpyruvate
89. In human RBC forms structure like piles of coins in capillaries called as :
- (A) Diapause (B)  Diapedesis  
 (C) Rouleaux (D) Podom
90. Q.R.S.T is related with :
- (A) Auricular systole (B) Ventricular systole  
 (C) Depolarization of ventricle (D)  Ventricular repolarization
91. One gram of haemoglobin when fully saturated will combine with :
- (A) 1.34 ml of O<sub>2</sub> (B)  3.14 ml of O<sub>2</sub>  
 (C) 4.13 ml of O<sub>2</sub> (D) 0.67 ml of O<sub>2</sub>
92. Which of the following is not secreted by kidney?
- (A) Renin (B) EPO  
 (C) Calcitriol (D)  Dopamine
93. Vomiting centre is situated in :
- (A) Arbor vitae (B)  Pons varolii  
 (C) Medulla oblongata (D) Cerebrum

94. An inhibitory neurotransmitter in the central nervous system is :  
(A) Epinephrine (B) Nor-epinephrine  
(C) GABA (D) Glutamate
95. Skin bronzing is characteristic of :  
(A) Addison's disease (B) Cushing's disease  
(C) Gull's disease (D) Grave's disease
96. Body cavity derived from blastocoel forms :  
(A) Haemocoel (B) Schizocoel  
(C) Enterocoel (D) Pseudocoel
97. Darlington proposed the most accepted theory of crossing over. That is :  
(A) Chiasma theory (B) Copy choice theory  
(C) Breakage and reunion theory (D) Classical theory
98. Bowman's capsule is lined by which type of epithelium?  
(A) Squamous (B) Cuboidal  
(C) Columnar (D) Stratified
99. In which of the following years was the 'Project Elephant' launched by the Government of India?  
(A) 1972 (B) 1992  
(C) 1962 (D) 1982
100. The type of cleavage found in annelids, most molluscs and flatworms is :  
(A) Radial cleavage (B) Spiral cleavage  
(C) Bilateral cleavage (D) Rotational cleavage