

Total Marks 200

201

# SCIENCE & TECHNOLOGY/MATHS

(English Medium)

Category

A

201-SCIENCE/MATHS

A 20103446

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Seat No. of the Candidate

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Block No. of the Candidate

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Signature of the Candidate

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Signature of the Block Supervisor

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## Important Instructions for Candidates

- (1) Please do not open the question booklet until you are told to do so.
- (2) During examination, if a candidate is found having any literature guide, guide, piece of paper, handwritten or printed paper, mobile phone, calculator, spy camera, headphose or any other equipments then the candidate will be considered as disqualified.
- (3) During the examination if candidates are found conversing with each other, making noise or not following supervisor's instructions then they will be considered as disqualified.
- (4) After receiving question paper please write your seat number in OMR SHEET at the correct given place.
- (5) Please do not write your seat number at any other place than the allotted one in the OMR SHEET and if any sign of your identity or recognition is found then you will be considered totally disqualified for the examination.
- (6) Signatures of both the supervisor and the candidate in the certificate of OMR SHEET are compulsory without which OMR SHEET will not be evaluated, so it is compulsory for the candidate to get signature of the supervisor.
- (7) Candidates can use blue/black ball pen. They cannot use pens or pencils of any other colour and also whitener.
- (8) No marks should be made on any of the options in the question paper.
- (9) There are total 200 questions in this question paper. There is only one answer to each question from the options A, B, C and D. Four options are given for each question. All the questions are compulsory.  
Example: What is the capital of Gujarat?  
(A) Ahmedabad (B) Gandhinagar (C) Vadnagar (D) Patan  
Here, if option (B) Gandhinagar is correct then option (B) in the OMR SHEET will have to be darkened with pen. Ⓐ ● Ⓒ Ⓓ
- (10) One (1) mark is allotted to each correct answer. For each wrong answer 0.25 marks will be deducted. If a candidate does not want to answer any question then he/she will have to select option E. Negative marking will not be applicable for option E.
- (11) Cross marked answers, answers given on more than one option and answers re-marked after use of blade, eraser or whitener will be given Negative 0.25 marks.
- (12) Please hand over the OMR SHEET to the block supervisor after completion of examination before leaving the classroom. Any candidate failing to do so will be considered as disqualified for the examination.
- (13) Maximum time allotted for the examination is 180 minutes.
- (14) Most appropriate option will be considered as answer of the question.

- (1) \_\_\_\_\_ is an author of the book "Why the Constitution Matters?"
- (A) Shri Amish Tripathi (B) Shri Ravi Mitra  
(C) Shri R. C. Lahori (D) Shri D. Y. Chandrachud
- (2) \_\_\_\_\_ article of the constitution directs the state to ensure Early Childhood Care and Education for the children up to 6 years.
- (A) Article 40 (B) Article 45  
(C) Article 48 (D) Article 46
- (3) Which among the pairs given in the options, is correct?
- (A) Rohila National Park - Karnatak  
(B) Keoladeo National Park - Rajasthan  
(C) Velavadar National Park - Madhya Pradesh  
(D) Jim Corbett National Park - Assam
- (4) According to the psychological learning tests, which among the following is incorrect ?
- (A) Intelligence Quotient : Stern  
(B) Classical conditioning : Watson  
(C) Trial and Error : Thorndike  
(D) Programmed learning : Skinner
- (5) Which among the following pairs are correctly matched.
1. Colosseum - Greece  
2. Pyramids - Egypt of Giza  
3. Leaning Tower of Pisa - Italy  
4. Angkor wat - Indonesia
- (A) Only 2, 3 (B) Only 3, 4  
(C) Only 2, 4 (D) Only 1, 2, 3
- (6) \_\_\_\_\_ Launched the Earth observation satellite COSMO-SkyMed Second Generation Flight Model-3 (SG-fm3)
- (A) NASA (B) European Space Agency  
(C) Arianespace (D) SpaceX

- (7) Read the following sentences in the context of Election Commission of India:
1. Election Commission of India was formed on 25<sup>th</sup> January, 1950.
  2. Chief Election Commissioner is appointed by prime-minister of India.
  3. Chief Election Commissioner can be impeached through the  $\frac{2}{3}$  majority of members of Parliament.
  4. National Voter's Day is celebrated on 26<sup>th</sup> January.

Which above is correct?

- |               |               |
|---------------|---------------|
| (A) Only 1, 2 | (B) Only 1, 3 |
| (C) Only 2, 4 | (D) Only 2    |
- (8) Three Tier Panchayati Raj system is implemented in Gujarat. It was recommended by \_\_\_\_\_
- (A) Jivraj Mehta Committee
  - (B) Balwant Rai Mehta Committee
  - (C) Bhuriya Committee
  - (D) None of the above
- (9) A pen-name of Manubhai Rajaram Pancholi is \_\_\_\_\_
- |             |              |
|-------------|--------------|
| (A) Darshak | (B) Sundaram |
| (C) Dwiref  | (D) Ushanas  |
- (10) India will jointly manufacture the Kamov-226T helicopter with \_\_\_\_\_
- |            |             |
|------------|-------------|
| (A) USA    | (B) Britain |
| (C) Russia | (D) France  |
- (11) It is called \_\_\_\_\_ defect of eye if a person is able to see nearby objects clearly but distant objects appear blurred.
- |                   |                |
|-------------------|----------------|
| (A) Hypermetropia | (B) Presbyopia |
| (C) Cornea        | (D) Myopia     |
- (12) It is a well-known belief that five ragas originated from the five faces of Lord Shiva. \_\_\_\_\_ is one among them.
- |                 |                       |
|-----------------|-----------------------|
| (A) Raag Hindol | (B) Raag Desh         |
| (C) Raag Yaman  | (D) Raag Ahir Bhairav |

- (13) Under NEP-2020, it is expected that students take pride on Indian Cultural Heritage and its knowledge systems. In order to achieve it, the essence of Bhagvad Gita has been included in \_\_\_\_\_ textbook of standard 9 to 12.
- (A) Social Science (B) Separate book  
(C) Gujarati (D) Sanskrit
- (14) Under NEP-2020, which among the following is expected from a good Educational Institute?
1. Each student is welcomed.
  2. Safe and motivated environment is provided.
  3. Diverse learning experiences are made available.
- (A) 1 and 2 (B) All three  
(C) 2 and 3 (D) 1 and 3
- (15) \_\_\_\_\_ students are included in STP class.
- (A) Out of school children  
(B) The students who are dropped out from school  
(C) Children with special needs  
(D) Above all
- (16) A school can be imposed with the penalty of \_\_\_\_\_ as per RTE Act-2009, if school schedules an interview for child's admission in school.
- (A) Rs. 10,000/- (B) Rs. 20,000/-  
(C) Rs. 25,000/- (D) Rs. 50,000/-
- (17) Which among the following is correct regarding census 2026-27 in India?
1. Census will be conducted in three phases.
  2. First time it will be digitally conducted.
  3. Self-enumeration option is introduced first time.
- (A) All three (B) 1 and 2  
(C) 2 and 3 (D) 1 and 3
- (18) A stands for \_\_\_\_\_ in NATO.
- (A) America (B) Atlantic  
(C) Arctic (D) Association

- (19) \_\_\_\_\_ is not among the Talukas recently formed in 2025.
- (A) Fagvel (B) Chikda  
(C) Shamaji (D) Tankara
- (20) Nobel Laureate Maria Machado belongs to \_\_\_\_\_.
- (A) Columbia (B) Venezuela  
(C) America (D) Australia
- (21) \_\_\_\_\_ among the following is essential for Distance Learning.
- (A) Effective pre-knowledge  
(B) Effective class-room interaction  
(C) Effective self-learning material  
(D) Effective integration
- (22) \_\_\_\_\_ ideology considers experiences as a source of knowledge.
- (A) Pragmatism (B) Realism  
(C) Idealism (D) Existentialism
- (23) The idea of the unique importance of interaction between nature and child in Education, is seen in the educational philosophy of \_\_\_\_\_.
- (A) Ravindranath Tagore (B) Gandhiji  
(C) Swami Vivekanand (D) J. Krishnamurthy
- (24) Education means \_\_\_\_\_ in comprehensive meaning.
- (A) A tool for livelihood  
(B) Process of holistic development  
(C) To attain literacy  
(D) To get trained
- (25) School education is a type of \_\_\_\_\_.
- (A) Continuous education  
(B) Distance education  
(C) Formal education  
(D) Informal education

- (26) Which among the following statements is incorrect in terms of the forms of education?
- (A) Education is a lifelong process.
  - (B) Education means distribution of information.
  - (C) Education is a process of exploration.
  - (D) Education is a process of creation.
- (27) In which philosophy, thought is considered more important than material objects
- (A) Pragmatism
  - (B) Idealism
  - (C) Realism
  - (D) Naturalism
- (28) \_\_\_\_\_ is a supreme power as per Naturalism
- (A) Spirituality
  - (B) Physical forces
  - (C) Existence
  - (D) Eternal truth
- (29) Knowledge is in \_\_\_\_\_ form as per Idealists.
- (A) Intangible
  - (B) Tangible
  - (C) Real
  - (D) Physical
- (30) \_\_\_\_\_ indicates internal impulse, excitation or pressure.
- (A) Impulse
  - (B) Motivation
  - (C) Arousal
  - (D) Instinct
- (31) The deficiency related to writing, reading and learning is known as \_\_\_\_\_.
- (A) Down syndrome
  - (B) Autism
  - (C) Dyslexia
  - (D) Distraction
- (32) Child likes to perform in musical acts. It shows his/her \_\_\_\_\_.
- (A) Intelligence
  - (B) Attitude
  - (C) Value
  - (D) Aptitude
- (33) Which among the following is incorrect regarding Growth
- (A) Growth is a change in physical organs
  - (B) Growth is a quantitative change
  - (C) Growth is a lifelong process
  - (D) Growth mostly depends on inheritance

- (34) Which among the following is incorrect regarding development?
- (A) Development is sequential in nature.  
 (B) Development is a qualitative change.  
 (C) Development is a complex and intricate process.  
 (D) Development stops at particular age.
- (35) "Each child is special" - What does this statement suggest?
- (A) Individual differences (B) Types of personality  
 (C) Social differences (D) Universal differences
- (36) Children facing a problem of Dysgraphia observes general errors in \_\_\_\_\_
- (A) Understanding (B) Reading  
 (C) Writing (D) Comprehension
- (37) The \_\_\_\_\_ phase of moral development is termed as the phase of Equality by Jean Piaget.
- (A) Young age (B) Childhood  
 (C) Adolescence (D) Old age
- (38) \_\_\_\_\_ formed the first personal Intelligence Test.
- (A) Binet and Simon (B) Wechsler and Binet  
 (C) Binet and Raven (D) Cafeman and Wechsler
- (39) What is meant by the mental readiness of psycho-physical behavior?
- (A) Motivation (B) Attitude  
 (C) Reaction (D) Psychological
- (40) In study weak student achieves success in sports. Which type of defense mechanism is this?
- (A) Adaptation (B) Displacement  
 (C) Projection (D) Compensation
- (41) \_\_\_\_\_ phase of development is called Transition period of life.
- (A) Young age (B) Childhood  
 (C) Adolescence (D) Teenage

- (42) To study your students' educational as well as psychological problems in depth, which of the following methods will be useful?
- (A) Visit (B) Case study  
(C) Observation (D) Sociometry
- (43) Jean Piaget had divided the birth to 12 year span in \_\_\_\_\_ phases.
- (A) Four (B) Five  
(C) Seven (D) Three
- (44) Action, Object, and Outcome are the parameters of \_\_\_\_\_ model of intelligence.
- (A) Bi-factor principle  
(B) Three-factor principle  
(C) Three-dimensional principle  
(D) Multiintelligence principle
- (45) \_\_\_\_\_ introduced three dimensional model of components of Intellectual abilities.
- (A) Guilford (B) Spearman  
(C) Sternberg (D) Gardner
- (46) In the context of the scores obtained by the entire group of students, the relative position of a particular student can be determined by \_\_\_\_\_ measure.
- (A) Percentile Rank (B) Co-relation  
(C) Rank (D) Percentage
- (47) Median is used when \_\_\_\_\_.
- (A) The number of both the extreme ends is high.  
(B) Every score needs to be taken into account.  
(C) A high level of accuracy is required.  
(D) Other statistical measures need to be calculated.
- (48) Which among the following is Assessment for learning?
- (A) Co-scholastic Assessment (B) Assessment of co-curricular activities  
(C) Formative Assessment (D) Summative Assessment

- (49) \_\_\_\_\_ among the following sequence is developmental in the context of level of Information.
- (A) Data → Information → Knowledge → Wisdom
  - (B) Information → Data → Knowledge → Wisdom
  - (C) Data → Knowledge → Information → Wisdom
  - (D) Information → Knowledge → Data → Wisdom
- (50) In the stages of Action Research, the topmost step is \_\_\_\_\_ as per intermediate status.
- (A) Problem
  - (B) Probable reasons of problem
  - (C) Sketch of Experiential task
  - (D) Evaluation
- (51) To pat the students is a \_\_\_\_\_ incentive.
- (A) Positive verbal incentive
  - (B) Positive not verbal incentive
  - (C) Negative verbal incentive
  - (D) Negative non-verbal incentive.
- (52) In the classroom, the teacher presents various examples through different methods, derives rules based on them and then makes generalization. It is called \_\_\_\_\_ method.
- (A) Inductive - Inductive
  - (B) Deductive - Inductive
  - (C) Inductive - Deductive
  - (D) Deductive - Deductive
- (53) A teacher should ask \_\_\_\_\_ types of questions in the classroom.
- (A) Meaningful
  - (B) Supportive
  - (C) Reflexive
  - (D) Suggestive
- (54) To make classroom teaching effective and lively, \_\_\_\_\_ types of interactions are not included.
- (A) Interactions between students and stimulus
  - (B) Interactions between teacher and students
  - (C) Interactions between student and Society
  - (D) Interactions between student and student

- (55) \_\_\_\_\_ is not the component included in relative effect of teacher in class-room interaction.
- (A) Acceptance of feelings (B) Praise motivation  
(C) Acceptance of ideas (D) Instructions
- (56) Complete the series : 1, 4, 9, 16, 25
- (A) 36 (B) 38  
(C) 40 (D) 44
- (57) X is taller than Y. Z is taller than X but shorter than T. W is shorter than X but taller than Y. Then find the option that correctly indicates the ascending order.
- (A) T - Z - X - W - Y (B) Z - X - W - Y - T  
(C) T - X - Z - W - Y (D) Y - W - X - Z - T
- (58) HOUSE = 69 then HOME = ?
- (A) 66 (B) 41  
(C) 40 (D) 37
- (59) Five friends A, B, C, D and E are standing in a queue. A is left to B. A is right to C and D. E is at the end in right. Then \_\_\_\_\_ is in the middle.
- (A) B (B) D  
(C) A (D) C
- (60) If SCHOOL = VFKRRO then PUPIL = \_\_\_\_\_
- (A) TYTMO (B) SXSLO  
(C) RWRKO (D) QVQLO
- (61) A person walks for 6 mt in North. Then he turns at  $90^\circ$  and walks for 3 mt to the East. Then he turns to South at  $90^\circ$  and walks for 6 mt. Then turns  $90^\circ$  to the East and walks for 3 mt. Now how far is he from the starting point?
- (A) 3 mt (B) 9 mt  
(C) 12 mt (D) 6 mt
- (62) \_\_\_\_\_ stands in the middle if letters are arranged in alphabetical order of word "MONTH"
- (A) M (B) O (C) N (D) H

- (63) If 5 people complete 5 tasks in 5 days, then 10 people complete 10 tasks in \_\_\_\_\_ days.
- (A) 10 days (B) 5 days  
(C) 1 days (D) 8 days
- (64) \_\_\_\_\_ among the following can be divided by 3, 7 and 8 without remainder.
- (A) 1008 (B) 564  
(C) 1009 (D) 1276
- (65) Your father's brother's son's sister's uncle is your \_\_\_\_\_.
- (A) Maternal uncle (B) Maternal grandfather  
(C) Maternal aunt's husband (Masa) (D) Father
- (66)  $8 \quad 4 \quad 68 \quad 17$
- (A)  $\times, +, =$  (B)  $-, \times, =$   
(C)  $-, =, +$  (D)  $\times, =, -$
- (67) \_\_\_\_\_ among the following is odd one.
- (A) J7Q (B) N6T (C) R3V (D) B2D
- (68) Krupali begins to walk to the North. She turns right after walking for 2 km. Then she walks for 2 km. Then she moves to the right and walks for 2 km. Now Krupali must be facing \_\_\_\_\_ direction.
- (A) North (B) South  
(C) East (D) West
- (69) 40 boys are standing in a line. Vedant stands 14<sup>th</sup> from the right, then he must be \_\_\_\_\_ from the left.
- (A) 25<sup>th</sup> (B) 24<sup>th</sup>  
(C) 27<sup>th</sup> (D) 26<sup>th</sup>
- (70) If in the following equation:  
+ in place of -  
× in place of ÷ inserted then \_\_\_\_\_ will come in place of ?  
 $35 + 30 - 3 \times 3 - 17 = ?$
- (A) 24 (B) 22 (C) 20 (D) 23

- (71) નીચે વિકલ્પોમાં આપેલા શબ્દોમાંથી સામાસિક શબ્દ ન હોય તે ઓળખી બતાવો.
- (A) પોસ્ટ ઓફિસ (B) પોસ્ટકાર્ડ  
(C) રાત-દિવસ (D) અનુપમ
- (72) બે કાંટ પતીરા રિયા - મંતીરા શબ્દનો અર્થ જણાવો.
- (A) કાકડી (B) ચીબડા  
(C) કારેલાં (D) કંકોડા
- (73) કાર ખોટકાર્ઈ પડે તો એનો માલિક ઘોડો શરમાય છે.  
વાક્યમાં ઘોડો શબ્દ નીચે વૈકી શું છે?
- (A) પ્રમાણસૂચક ક્રિયા વિશેષણ (B) માત્રાસૂચક વિશેષણ  
(C) સમયવાચક ક્રિયા વિશેષણ (D) પ્રમાણસૂચક ક્રિયા વિશેષણ
- (74) રોગના મૂળમાં સમજણ સાથેના છુટાછેડા રહેલા છે - વાક્યનો ભાવાર્થ દર્શાવતું વાક્ય નીચેના વિકલ્પમાંથી શોધો.
- (A) ડૉક્ટર રોગની જાળવણી માટે છે કે આરોગ્યની?  
(B) રોગ થાય તે માટે સુખી લોકો સ્થૂળ સાપના કરે છે.  
(C) પોતાના શરીરને ન સમજે તે વળી બીજાને શું સમજે?  
(D) તંદુરસ્ત સમાજ એટલે હોસ્પિટલ, અનાથ આશ્રમ, વૃદ્ધાશ્રમની વૃદ્ધિ.
- (75) સમાન અર્થ પરાવતા શબ્દની જોડી નીચેના વિકલ્પોમાંથી ઓળખી બતાવો.
- (A) આદિમ - પ્રારંભ, અંત (B) છાંક - નશો, કેફ  
(C) ઓથ - સહારો, સાયુજ્ય (D) ગિરા - મીઠાંશ, કંકસતા
- (76) વિરામ ચિહ્ન નક્કી કરો.
- વાચન સમજ માટે વપરાય છે.  
- કોઈના કથનને દર્શાવતા પહેલા મૂકાય છે.  
- સંબોધનના પદ પછી મૂકાય છે.
- (A) પૂર્ણવિરામ (B) અર્ધવિરામ  
(C) અલ્પવિરામ (D) ગુરુવિરામ
- (77) અર્થની સ્પષ્ટતા કરવા માટે વપરાય છે.
- (A) નાનો કૌસ (B) મોટો કૌસ  
(C) છગડિયો કૌસ (D) બેવડું અવતરણ

(78) સાચી જોડણી ઓળખો.

(A) કીર્તિ

(B) કિર્તિ

(C) કીર્તી

(D) કિર્તી

(79) કવિ - લેખકના તખલ્લુસની યોગ્ય જોડ બનાવો.

A

B

1. ગૌરીશંકર જોશી

A. બેકામ

2. મણિશંકર ભટ્ટ

B. વાયુકી

3. બરકર વિરાણી

C. પૂખડેતુ

4. ઉમાશંકર જોશી

D. કાન્ત

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

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

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

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

(80) જરૂર - નો સમાનાર્થી શબ્દ શોધો.

(A) પિતા

(B) જરૂર

(C) યુવાન

(D) વૃદ્ધ

(81) પૂર્વા, મને તારું સરનામું લખાવ તો ! વાક્યમાં નિપાત શોધો.

(A) તો

(B) મને

(C) તારું

(D) લખાવ

(82) શોધડિયું - સમાસ ઓળખાવો.

(A) દંડ

(B) દિગુ

(C) તત્પુરૂષ

(D) મધ્યમપદલોપી

(83) અલંકાર ઓળખાવો - "રવિને પોતાનો તારકો ન ગમે તો ક્યાં જાય?"

(A) વ્યાજસ્તુતિ

(B) અનન્વય

(C) વ્યતિરેક

(D) શ્લેષ

(84) વિભક્તિનો પ્રકાર જણાવો. તે રાજકોટ સુધી અમારી સાથે હતા.

(A) દ્વિતીયા

(B) તૃતીયા

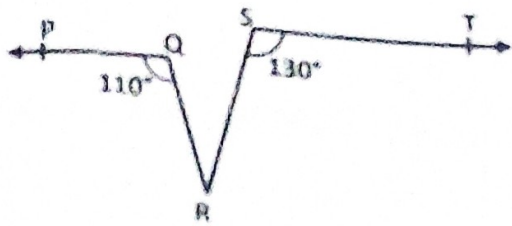
(C) પંચમી

(D) સપ્તમી

- (85) शब्दकोशना क्रममां गीठवो. कीस, कृपा, कांचन, कागण  
 (A) कागण, कांचन, कीस, कृपा  
 (B) कागण, कांचन, कृपा, कीस  
 (C) कागण, कृपा, कांचन, कीस  
 (D) कागण, कीस, कांचन, कृपा
- (86) Quinine tastes bitter. Find the correct passive sentence.  
 (A) Quinine is bitter when it is tasted. (B) Quinine is bitter tasted.  
 (C) The taste of quinine is bitter. (D) Quinine is tasted bitter.
- (87) When he was working with full concentration, \_\_\_\_\_ angle appeared and commented.  
 (Put proper article)  
 (A) a (B) an  
 (C) the (D) none
- (88) You must \_\_\_\_\_ God, the greatest. (put proper phrase)  
 (A) trust on (B) trust to  
 (C) trust in (D) trust
- (89) For 25 years, the residents of Taj Nagar Village near Gurgaon lobbied \_\_\_\_\_ a railway station in their village.  
 (A) to (B) for  
 (C) towards (D) on
- (90) Few people turned up for the show, \_\_\_\_\_? (Select proper Question Tag)  
 (A) did they (B) didn't they  
 (C) aren't they (D) won't they
- (91) Which is not the sub skill of Listening Skills?  
 (A) Global understanding (B) Specific information  
 (C) Scanning (D) Infer attitude
- (92) Which conjunction is preferable to indicate the reason and result?  
 (A) Although (B) Though  
 (C) So that (D) Either ... nor

- (93) Find out the nearest meaning of "haze".
- (A) near (B) for  
(C) gaze (D) gain
- (94) "Let's give a party", said Jaya. "let's not", said her husband. Find the correct indirect speech.
- (A) Jaya suggested giving a party but her husband answered in the positive.  
(B) Jaya suggested giving a party but her husband contradicted her.  
(C) Jaya suggested giving a party but her husband was not sure.  
(D) Jaya suggested not giving a party but her husband refused.
- (95) Find the adjective from the options given below.
1. Black 2. Box 3. School 4. House
- (A) box (B) black  
(C) school (D) house
- (96) Fill in the blank : The manager was impressed \_\_\_\_\_ his dedication.
- (A) at (B) on (C) with (D) for
- (97) Select the synonym of Diligent :
- (A) Hardworking (B) Intelligent  
(C) Lazy (D) Famous
- (98) Choose the correct antonym of : 'Transparent'
- (A) Clear (B) Opaque (C) Fragile (D) Solid
- (99) Fill in the blank with correct tense : "By the time we reach the station, the train \_\_\_\_\_."
- (A) leaves (B) will leave  
(C) will have left (D) left
- (100) Select the correct meaning of the idiom : 'To hit the nail on the head'
- (A) To hurt someone  
(B) To work as a carpenter  
(C) To describe exactly what is causing a situation  
(D) To make a loud noise

(101) In the figure of  $PQ \parallel ST$ ,  $\angle PQR = 110^\circ$  and  $\angle RST = 130^\circ$ , find  $\angle QRS$ .



- (A)  $110^\circ$  (B)  $130^\circ$   
 (C)  $80^\circ$  (D)  $60^\circ$

(102) Which of the following statements is not true?

- (a) A square is a Rectangle  
 (b) In parallelogram, opposite sides are equal  
 (c) A kite is a parallelogram  
 (d) A rhombus is a parallelogram
- (A) A square is a Rectangle (B) In parallelogram opposite sides are equal  
 (C) A kite is a Parallelogram (D) A rhombus is a Parallelogram

(103) Which of the following statements is true?

- (A) Every natural number is a whole number (B) Every integer is a whole number  
 (C) Every rational number is a whole number (D) Every real number is a whole number

(104) If  $\frac{10}{x} + \frac{5}{y} = 12$ ,

$$\frac{12}{x} + \frac{17}{y} = 10,$$

then  $\frac{1}{x} + \frac{1}{y} =$  \_\_\_\_\_

- (A) 10 (B) 3  
 (C) 2 (D) 1

(105) Find value of  $K$  if  $(x - 1)$  is a factor of polynomial  $P(x) = kx^2 - \sqrt{2}x + 1$

- (A)  $1 - \sqrt{2}$  (B)  $\sqrt{2} - 1$   
 (C)  $\sqrt{2}$  (D)  $-\sqrt{2}$

(106) Which of the following polynomials have factor  $(x + 1)$  ?

(1)  $x^3 + x^2 + x + 1$

(2)  $x^4 + x^3 + x^2 + x + 1$

(3)  $x^4 + 3x^3 + 3x^2 + x + 1$

(4)  $x^3 - x^2 - (2 + \sqrt{2})x + \sqrt{2}$

(A) Both (3) and (4)

(B) Only (3)

(C) Both (1) and (2)

(D) Only (1)

(107) Which of the following statements is not true ?

(1) The sum of two rational numbers is always rational.

(2) The product of two rational numbers is always rational.

(3) The product of two irrational numbers is always irrational.

(4) The sum of rational and irrational number is irrational.

(A) 1

(B) 2

(C) 3

(D) 4

(108) The distance between the points  $(2, 3)$  and  $(4, 1)$  is \_\_\_\_\_

(A) 4

(B)  $2\sqrt{2}$

(C)  $4\sqrt{2}$

(D) 8

(109) If  $\sin A = \cos A$ , the value of angle  $A =$  \_\_\_\_\_

(A)  $60^\circ$

(B)  $45^\circ$

(C)  $30^\circ$

(D)  $90^\circ$

(110) If  $2 \cos 30^\circ \times \sin 30^\circ = \sin \theta$ , the value of  $\theta =$  \_\_\_\_\_

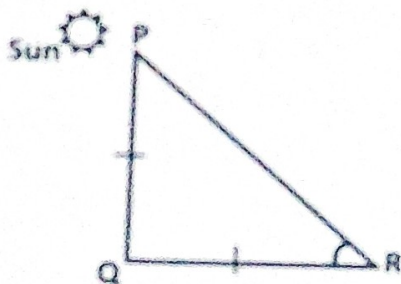
(A)  $\sqrt{3}$

(B)  $\frac{1}{\sqrt{2}}$

(C)  $\frac{1}{2}$

(D)  $\frac{\sqrt{3}}{2}$

(111) In the figure below, the height of tower  $PQ$  and length of its shadow on ground  $QR$  are equal, the angle of elevation of sun from point  $R$  is \_\_\_\_\_



(A)  $45^\circ$

(B)  $60^\circ$

(C)  $90^\circ$

(D)  $30^\circ$

- (112) If  $7\sec^2\theta - 4\tan^2\theta = 7$  then  $\sec\theta =$  \_\_\_\_\_
- (A) 1 (B) 2  
(C) 4 (D) 7
- (113) The L.C.M. of first prime and first composite natural number is \_\_\_\_\_.
- (A) 2 (B) 4  
(C) 1 (D) None of the above
- (114) A student appeared in 80 marks board exam of Mathematics, probability for him to score 80 marks is \_\_\_\_\_.
- (A) 1 (B)  $\frac{1}{81}$   
(C)  $\frac{1}{80}$  (D) 0
- (115) Which of the following is a rational number?
- (A)  $1 + \sqrt{3}$  (B)  $\pi$   
(C)  $2\sqrt{3}$  (D) 0
- (116) Which of the following needs proof?
- (A) Theorem (B) Axiom  
(C) Definition (D) Postulate
- (117) In class interval 10-20, 20-30, the number 20 includes in:
- (A) 10-20 (B) 20-30  
(C) both the intervals (D) None of these intervals
- (118) A joker's cap is in the form of a cone of base radius 7 cm and height 24 cm. The area of sheer to make 10 such caps is :
- (A)  $6500\text{ cm}^2$  (B)  $8500\text{ cm}^2$   
(C)  $5500\text{ cm}^2$  (D)  $3500\text{ cm}^2$
- (119) The diameter of the moon is approximately one fourth of the diameter of the earth. What fraction of the volume of the earth is the volume of the moon?
- (A)  $\frac{1}{61}$  (B)  $\frac{1}{32}$   
(C)  $\frac{1}{64}$  (D)  $\frac{1}{6}$

- (120) Equal chords of a circle subtend  
 (A) Equal angles at the centre  
 (B) Angles of different measure  
 (C) Both A and B  
 (D) None
- (121) If PQRS is a parallelogram then  $\angle P - \angle R$  is ...  
 (A)  $90^\circ$   
 (B)  $45^\circ$   
 (C) 0  
 (D)  $60^\circ$
- (122) If every side of triangle is doubled by what percentage is the area of triangle increase?  
 (A) 200 %  
 (B) 300 %  
 (C) 100 %  
 (D) 400 %
- (123) The circle passing through three vertices of a triangle is called ...  
 (A) Half circle  
 (B) Semi circle  
 (C) Cyclic  
 (D) Circum circle
- (124) Two consecutive angles of a parallelogram are in the ratio 1:3, then what will be the smaller angle?  
 (A)  $20^\circ$   
 (B)  $60^\circ$   
 (C)  $30^\circ$   
 (D)  $45^\circ$
- (125) The Class Mark of class 100-120 is ...  
 (A) 110  
 (B) 111  
 (C) 101  
 (D) 105
- (126) In  $\triangle ABC$ , if  $2A = 3B = 6C$  then the measure of  $\angle A$  is ...  
 (A)  $30^\circ$   
 (B)  $75^\circ$   
 (C)  $90^\circ$   
 (D)  $60^\circ$
- (127) An angle is 14 more than its complementary angle. What is its measure?  
 (A) 42  
 (B) 58  
 (C) 48  
 (D) 52
- (128) A reflex angle is  
 (A)  $> 90^\circ$   
 (B)  $= 90^\circ$   
 (C)  $> 180^\circ$   
 (D)  $= 180^\circ$
- (129) Boundaries of solids are  
 (A) Surfaces  
 (B) Curves  
 (C) Lines  
 (D) Points

(130) A and B are friends and their ages differ by 2 years. A's father D is twice as old as A and B is twice as old as his sister C. The age of D and C differ by 40 years. Choose the correct linear equation to find the ages of A and B.

(A)  $\frac{A}{2} - 2B = 40$

(B)  $2A - \frac{B}{2} = 40$

(C)  $2A - B = 40$

(D)  $2A - \frac{(B+C)}{2} = 40$

(131) On joining points (0, 0), (0, 2), (2, 2) and (2, 0) we obtain a

(A) Square

(B) Rectangle

(C) Rhombus

(D) Parallelogram

(132) The number of zeroes of  $x^2 + 4x - 12$  are

(A) 0

(B) 1

(C) 2

(D) 4

(133) Find the value of:

$$\frac{(361)^3 + (139)^3}{(361)^2 - 361 \times 139 + (139)^2}$$

(A) 300

(B) 500

(C) 400

(D) 600

(134) If  $(x - 1)$  is a factor of  $4x^3 + 3x^2 - 4x + K$  then  $K =$  \_\_\_\_\_

(A) 4

(B) 1

(C) 3

(D) -3

(135) The coordinate of a point on the X-axis lying at a distance 5 units from the origin on the right side of the Y-axis are:

(A) (5, 0)

(B) (0, 5)

(C) (-5, 0)

(D) (0, -5)

(136) The difference of supplementary angle and complementary angle of any acute angle is \_\_\_\_\_.

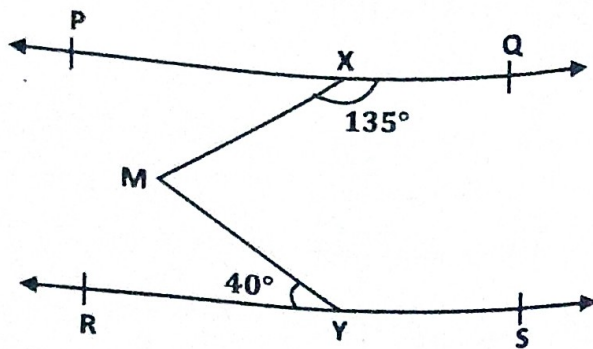
(A)  $45^\circ$

(B)  $60^\circ$

(C)  $90^\circ$

(D)  $120^\circ$

(137) If  $PQ \parallel RS$ ,  $\angle MXQ = 135^\circ$  and  $\angle MYR = 40^\circ$ . Find  $\angle XMY$ .

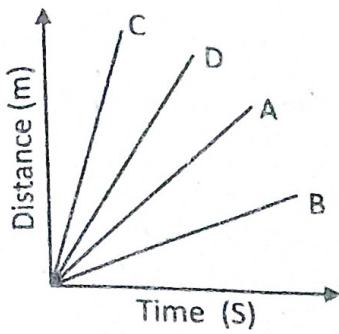


- (A)  $45^\circ$  (B)  $40^\circ$   
 (C)  $135^\circ$  (D)  $85^\circ$
- (138) In  $\triangle ABC$  and  $\triangle PQR$ ,  $\angle B = \angle P = 90^\circ$ ,  $AC = RQ$  and  $AB = PR$  then  $\triangle ABC \cong \triangle$
- (A) PQR (B) PRQ  
 (C) RPQ (D) QPR
- (139) Three girls Riya, Myra and Jiya are playing a game by standing on a circle of radius 5 cm drawn in a Park. Riya throws a ball to Myra, Myra to Jiya, Jiya to Riya. If the distance between Riya and Myra and between Myra and Jiya is 6 cm each. What is the distance between Riya and Jiya?
- (A) 4.8 m (B) 8.4 m  
 (C) 9.2 m (D) 9.6 m
- (140) Two circles of radii 5 cm and 3 cm intersect at two points and the distance between their centre is 4 cm. What is the length of common chord?
- (A) 2 cm (B) 6 cm  
 (C) 3 cm (D) 4 cm
- (141) Which of the following is not a part of the cell theory?
- (A) All living organisms are composed of cells.  
 (B) Cells are the basic unit of structure and function in organism.  
 (C) All cells have a nucleus.  
 (D) All cells arise from preexisting cells.
- (142) A person met with an accident in which two long bones of hand were dislocated. Which among the following may be the possible reason?
- (A) Tendon break (B) Break of skeletal muscle  
 (C) Ligament break (D) Areolar tissue break

- (143) Name of the plant tissue that provided flexibility and mechanical support in growing parts of plants?
- (A) Parenchyma (B) Collenchyma  
(C) Sclerenchyma (D) Chlorenchyma
- (144) Why do cells of apical meristem lack vacuoles?
- (A) They store food material (B) They have thin cell walls  
(C) They contain dense cytoplasm (D) They are actively dividing cells
- (145) In an ecosystem energy lost as heat from the organism in a food chain cannot be reused by plants in photosynthesis because energy in an ecosystem is..
- (A) Converted (B) Consumed  
(C) Cyclic (D) Unidirectional
- (146) During summer, the leaves of a polled plant droop when the soil dries up. Which cell organelle is mainly responsible for this drooping due to water loss?
- (A) Nucleus - as it stops making DNA  
(B) Cell wall - As it starts to shrink  
(C) Lysosome - as it releases digestive enzymes.  
(D) Vacuole - As it losses all the water
- (147) Identify the correct pair.
- (A) Oxytocin - Feel good hormone  
(B) Melatonin - Regulates Metabolism  
(C) Dopamine - Manages the sleep wake cycle  
(D) Cortisol - triggers fight - or flight responses
- (148) Which of the following is a genetically modified crop?
- (A) Hybrid maize (B) Bt cotton  
(C) Organic wheat (D) Traditional rice
- (149) Evaporation takes place at surface of liquid because ...
- (A) They have sufficient kinetic energy to break the force  
(B) They are heavy as compared to other particles  
(C) They are light weight as compared to other particles  
(D) None of these

- (150) The most favorable conditions for converting gas into liquid are ...
- (A) Low pressure, high temperature                      (B) Low pressure, low temperature  
(C) High pressure, low temperature                      (D) High pressure, high temperature
- (151) Find the odd one out.
- (A) Steel    (B) Duralumin  
(C) Sterling silver    (D) Platinum
- (152) What is the molecular mass of ethanol?
- (A) 46 g    (B) 34 u  
(C) 46 u    (D) 34 g
- (153) Identify the isotope used for estimating the age of an artifact or biological vestige.
- (A) Carbon - 14    (B) Carbon - 13  
(C) Carbon - 12    (D) Carbon - 11
- (154) Which statement is not true about an atom?
- (A) Atoms are the basic unit from which molecules and ions are formed.  
(B) Atoms are not able to exist independently.  
(C) Atoms are always neutral in nature.  
(D) Atoms aggregate in large numbers to form the matter that we can see, feel or touch.
- (155) A car travels along a straight road and covers distance of 50 km and 60 km at speeds of 40 km/h and 60 km/h respectively. Calculate the total time taken by the car to cover the entire journey.
- (A) 0.875 hour    (B) 1 hour  
(C) 1.25 hours    (D) 2.25 hours
- (156) A passenger in a moving train tosses a coin which falls behind him. It means that the motion of the train is ...
- (A) Accelerated    (B) Uniform  
(C) Retarded    (D) Along circular tracks
- (157) If the mass of an object on earth is 60 kg, what will be its weight on the moon?
- (A) 600 N    (B) 100 N  
(C) 360 N    (D) 60 N

- (158) Four cars A, B, C, and D are moving on a leveled road. Their distance versus time graphs are shown in figure. Choose correct statement.



- (A) Car A is faster than car D                      (B) Car D is faster than car C  
(C) Car B is the slowest                              (D) Car C is the slowest
- (159) A stone is thrown vertically upwards with a certain velocity from the surface of the Earth. How does the acceleration due to gravity acting on the stone change as it goes higher?
- (A) Increases    (B) Decreases  
(C) Remains constant                                      (D) Becomes zero
- (160) What is the commercial unit of energy in India?
- (A) Joule    (B) Erg  
(C) Watt    (D) Kilowatt-hour
- (161) In which of the following mediums will sound waves propagate at the highest speed?
- (A) A liquid medium at 50°C temperature              (B) A liquid medium at 25°C temperature  
(C) A gaseous medium at 50°C temperature              (D) A gaseous medium at 25°C temperature
- (162) The process of conversion of Gas to liquid is called \_\_\_\_\_.
- (A) Melting    (B) Sublimation  
(C) Fusion    (D) Condensation
- (163) If the surface area is increased, the rate of Evaporation \_\_\_\_\_.
- (A) Increases    (B) Decreases  
(C) Remains constant    (D) None of the above
- (164) \_\_\_\_\_ is an exactly opposite reaction of decomposition reaction.
- (A) Combination    (B) Reduction  
(C) Displacement    (D) Oxidation

- (165)  $BaCl_2 + \underline{\hspace{2cm}} \rightarrow BaSO_4 + 2NaCl$
- (A)  $Na_2SO_4$  (B)  $2NaSO_3$   
 (C)  $(NaSO_3)_2$  (D)  $Na_2(SO_4)_2$
- (166) An embryo gets nutrition from a specialized disc-shaped tissue is called \_\_\_\_\_.
- (A) Estrogen (B) Placenta  
 (C) Fallopian Tube (D) Epididymis
- (167) \_\_\_\_\_ pairs of chromosomes are present in Humans.
- (A) 22 (B) 25  
 (C) 23 (D) 24
- (168) \_\_\_\_\_ metal is used as a filament in bulb.
- (A) Gold (B) Silver  
 (C) Iron (D) Tungsten
- (169) A disease in which, the crystalline lens in elders becomes milky and cloudy is known as \_\_\_\_\_.
- (A) Myopia (B) Cataract  
 (C) Presbyopia (D) Hypermetropia
- (170) Three resistors each with resistance  $3\Omega$  are connected in parallel in the same circuit, their equivalent resistance,  $R = \underline{\hspace{2cm}} \Omega$
- (A) 1 (B) 3  
 (C)  $\frac{1}{3}$  (D) None
- (171) In the year 1986/1987 \_\_\_\_\_ programme was designed for an agreement to freeze CFC production.
- (A) UNPEP (B) UNESP  
 (C) UNEP (D) UNECP
- (172) If an optician prescribes +2.0D, then the type of lens will be \_\_\_\_\_.
- (A) Convex (B) Concave  
 (C) Bifocal (D) Plane mirror
- (173) The least distance of distinct vision for a young adult with normal vision is about \_\_\_\_\_.
- (A) 25 m (B) 2.5 cm  
 (C) 25 cm (D) 2.5 m

- (174) Ozone layer is located in the \_\_\_\_\_ specifically.
- (A) Stratosphere (B) Atmosphere close to Earth  
(C) Biosphere (D) Troposphere
- (175) An object is placed at 40 cm distance in front of a plane mirror. The distance between the object placed and its image will be \_\_\_\_\_ cm.
- (A) 40 (B) 60  
(C) 20 (D) 80
- (176) Identify which is not vital function of Kidney.
- (A) Activation of vitamin D (B) Acid-Base balance  
(C) Waste balance (D) Production of blood-clotting protein
- (177) Which of the following is not allotrope of carbon?
- (A) Granite (B) Graphite  
(C) Diamond (D) Soot
- (178) Taj Mahal is made up of ...
- (A) CaO (B)  $\text{CaCO}_3$   
(C)  $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$  (D)  $\text{Ca(OH)}_2$
- (179) Which among the following is considered as the strongest electrolyte?
- (A) Dilute acid (B) Dilute sugar solution  
(C) Glucose solution (D) Ethanol in water
- (180) In torch lights and headlights of vehicles, the bulb is placed
- (A) Between the poles and the focus of the reflector  
(B) Very near to the focus of the reflector  
(C) Between the focus and centre of curvature of the reflector  
(D) At the centre of curvature of the reflector
- (181) National Science day is celebrated on:
- (A) 31<sup>st</sup> December (B) 5<sup>th</sup> June  
(C) 21<sup>st</sup> June (D) 28<sup>th</sup> February
- (182) What should not be a characteristic of a Science class?
- (A) Learning Environment (B) Welcoming Attitude  
(C) Parents' active involvement (D) Non cooperative behavior by teacher

- (183) According to Dr. Bloom, Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation are the components of the \_\_\_\_\_ Domain.
- (A) Psychomotor (B) Affective  
(C) Cognitive (D) Social
- (184) Which principle should guide the selecting of learning resources for teaching Science to children with disabilities?
- (A) Uniformity for all learners (B) Flexibility based on individual needs  
(C) Preference for traditional methods (D) Focus only on assessment outcomes
- (185) "Unknown to known" is used for which teaching method?
- (A) Demonstration method (B) Experiment method  
(C) Synthetic method (D) Analytical method
- (186) Which of the following teaching-learning resources in Mathematics can be used for visually challenged students?
- A. Geoboard  
B. Geogebra  
C. Abacus  
D. Graphic calculator
- (A) A and C (B) A and D  
(C) B and D (D) A, B and D
- (187) Which of the following is the most important aspect of teaching of Mathematics at primary level?
- (A) Promoting and preparing for technology  
(B) Preparing for higher education and employment  
(C) Development rigour in calculations  
(D) Making Mathematics part of children's life experiences
- (188) A teacher folds a square sheet of paper into half and punches a hole in the folded sheet of paper. She then unfolds the paper. Which of the following topics she can teach with this activity?
- (A) Symmetry and fraction (B) Volume and fraction  
(C) Symmetry and volume (D) Surface area of square



- (194) Who gave the statement: "Mathematics is the mirror of civilization and culture."
- (A) Bacon (B) Locke  
(C) Dutton (D) Hogben
- (195) Why should co-curricular activities such as science fair be organized in school?
- (A) It helps institution to get fame  
(B) It helps in overall development of a child  
(C) It helps justification of fee collection  
(D) It is important for children who do not take interest in studies.
- (196) A teacher uses role play method in Mathematics class. His/her aim is \_\_\_\_\_.
- (A) Keeping children busy (B) Entertaining children  
(C) Projecting Ideas (D) Maintaining discipline
- (197) A student can not differentiate rectangles from squares and considers both at the same category. According to Van Hiele theory of geometric reasoning, the student is at which level?
- (A) Axiomatic level (B) Analysis level  
(C) Deduction level (D) Visualization level
- (198) Which teaching method for both Mathematics and Science is known as "Unknown to known"?
- (A) Analytical Method (B) Synthetic Method  
(C) Experiment Method (D) Demonstrative Method
- (199) Which of the following is not a Mathematical process?
- (A) Visualizations (B) Memorizations  
(C) Estimations (D) Transposition
- (200) While teaching in Mathematics class, a teacher gives the statement: "Common Divisor of two integers is a number which divides both the given integers." The statement is a/an
- (A) Proposition (B) Axiom  
(C) Definition (D) Open sentence

