

Total Marks **200**

MATHS/SCIENCE

(English Medium)

Category

A

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, headphone 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. **A ● C D**
- (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.

Space for Rough Work

- (1) "Provision to parents of giving education opportunity to their children having age 6 to 14 years ." The above section is added in which set of schedule 86 of Indian constitution under fundamental rights?
 (A) Section -11 (B) Section - 2
 (C) Section -86 (D) Section - 4
- (2) Who is the author of life sketch of Mahadevbhai Desai "Agnikund Mein Uga Hua Gulab"?
 (A) Manbhatt (B) Narayan Desai
 (C) Jayshankar Desai (D) Mahadev Desai
- (3) Who is the author of stanza "Harino Marag Che Shoorano"?
 (A) Kavi Preetam Das (B) Manishankar Ratnajee Bhatta
 (C) Damodar Khushal Botadkar (D) Narsinh Mehta
- (4) Function of Union of India is mentioned in which part of Indian Constitution?
 (A) 6 (B) 4
 (C) 5 (D) 2
- (5) Which Indian sportsperson won bronze in 51 kg category in World Boxing Championship?
 (A) Sukhdev (B) Nishant Dave
 (C) Husamuddin (D) Deepak Bhuriya
- (6) To encourage Indian people for independence movement which English newspaper has been started by Gandhiji in India first?
 (A) Young India (B) Youth India
 (C) Vartaman Bharat (D) Aandolan
- (7) In which age Himalayan Mountain Range formed?
 (A) Satyug (age) (B) Archean age
 (C) Jurassic age (D) Tertiary age
- (8) Stars of sky shine because of which effect of Science?
 (A) Diffusion of Light (B) Refraction of light
 (C) Diffraction of light (D) Division of light
- (9) What is the share of industries in gross national production in India?
 (A) 25% (B) 29%
 (C) 32% (D) 39%
- (10) In which part of Indian constitution, fundamental duties have been included?
 (A) Part -3 (A) (B) Part -5 (A)
 (C) Part - 4 (A) (D) Part - 6 (A)

- (11) Who was the first person to receive “Bharat Ratna” ?
(A) Dr. Rajendra Prasad (B) Dr. Sarvepalli Radhakrishnan
(C) Mahadevbhai Desai (D) Lalbahadur Shastri
- (12) In which of the following programmes interactive board is used?
(A) Pragya Abhigam (B) Bal Project
(C) Virtual Classroom (D) Gyankunj Project
- (13) Unique ID of how many digits is given to the students of a secondary school?
(A) 14 (B) 16
(C) 18 (D) 19
- (14) Education is a subject of which list in Indian Constitution ?
(A) Central List (B) State list
(C) Joint List (D) District list
- (15) In which organ, there is insulin production?
(A) Stomach (B) Pancreas
(C) Large intestine (D) Brain
- (16) In which country Hockey World Cup (Mens) - 2023 was organised?
(A) India (B) Japan
(C) France (D) Brazil
- (17) Where is the World’s Biggest Mineral Oil Purification Plant?
(A) Jamnagar (B) Ankleshwar
(C) Digboi (D) Dehradun
- (18) How many leaves including holidays have been decided for Gujarat Secondary and Higher Secondary Schools for the year 2023-24 by Gujarat Secondary and Higher Secondary Education Board?
(A) 79 (B) 80
(C) 81 (D) 82
- (19) According to National Education Policy-2020, which institution has been authorized for monitoring of minimum commercial and quality standards followed by State/Central Schools?
(A) PARAKH (B) SWAYAM
(C) DIKSHA (D) SSSA
- (20) Up to which class education is expected in mother tongue in National Education Policy 2020?
(A) Class 6 (B) Class 8
(C) Class 10 (D) Class 5

- (21) If the syllabus is changed because of business and industries then this is considered as effect of which factors on educational objectives?
- (A) Cultural factors (B) Social factors
(C) Economical factors (D) Ethical factors
- (22) “Without thinking on what a person is doing what he should do”? This thought is connected with which goals of education ?
- (A) Ethical goals (B) Goals of attaining knowledge
(C) Goal of complete life (D) Goals of good use of free time
- (23) Objectives, syllabus, institutions and time limit if all of these are decided then this is considered as which form of education?
- (A) Informal (B) Formal
(C) Illegal (D) Joint
- (24) Which program does not directly apply to Informal learning?
- (A) Knowledge of alphabets (B) Examination
(C) Education of business (D) Deaddiction
- (25) Which of the following issues is not included in three issues of learning process?
- (A) Starting (B) Result
(C) Process (D) Evaluation
- (26) Some children are introverts, some are extroverts, some are talkative and some of them are shy. This type of difference in children is known as -
- (A) Physical difference (B) Difference in personality
(C) Difference in hobbies (D) Social difference
- (27) Which of the following is not included in different intelligence quotients ?
- (A) Intelligence Quotient (I.Q.) (B) Spiritual Quotient (S.Q.)
(C) Regional Quotient (R.Q.) (D) Emotional Quotient (E.Q.)
- (28) Who has developed vocational interest modification?
- (A) McDougall (B) Strong
(C) Morgan (D) Garrett
- (29) Which experiment is used to measure abilities/powers like Art, Music, Creativity in a person?
- (A) Attitude Criteria (B) Interest experiment
(C) Zest/Rasa modification (D) Aptitude experiment
- (30) Which is not included in three types of internal processes in a class?
- (A) Teacher-Student Behaviour (B) Student-Material Behaviour
(C) Teacher-Material Behaviour (D) Student-Student Behaviour

- (31) Which of the following is not included in commonly used three middle position statistical measures?
(A) Mean (B) Median
(C) Mode (D) Midpoint
- (32) Which is different from the three tests of evaluation ?
(A) Written (B) Oral
(C) Practical (D) Functional
- (33) With which of the following is spreadsheet related?
(A) Microsoft Excel (B) Microsoft Powerpoint
(C) Microsoft Word (D) Access
- (34) Whose philosophy of education is shown in “Framing and Clading” ?
(A) Gijubhai Badheka (B) Nanabhai Bhatt
(C) Taraben Modak (D) J. Krishnamurti
- (35) Education by productive labour, for productive labour, and can only be of productive labour”
(A) Mahatma Gandhiji (B) Ravindranath Tagore
(C) Mr. Arvind (D) Swami Vivekananda
- (36) Which of the following principles is not included in principles of John Dewey?
(A) Principle of utility (B) Principle of inclination
(C) Principle of labour (D) Principle of zest(rasa)
- (37) New India Literacy Program (NILP) has been started for illiterates of which age group?
(A) 15 years and above (B) 15 years to 55 years
(C) 6 years to 14 years (D) 21 years to 65 years
- (38) Which is known as one nation one digital platform ?
(A) PM eVIDYA (B) BISAG-N
(C) DIKSHA (D) Vande Gujarat Channel
- (39) Who talked about learning by senses ?
(A) Dr. S. Radhakrishnan (B) Ravindranath Tagore
(C) Mahatma Gandhi (D) Maharishi Arvind
- (40) Who started learning by senses for special children?
(A) Maria Montessory (B) Grace Fernold
(C) Jim Piaget (D) Ivan Pavlov

- (41) Which of the following pairs of psychologists associated with study is correct?
 (A) Trial and Error - Vygotsky (B) Behaviourism - Pavlov
 (C) Constructivism - Skinner (D) Conditioning by factors – Thorndike
- (42) Which of the following is not a characteristic learning process?
 (A) Experience is necessary for learning
 (B) Interaction with environment is necessary for learning
 (C) Learning can enter from one condition to the other
 (D) Memory is necessary for learning
- (43) Who gave Discovery learning approach ?
 (A) Robert Gagne (B) Jerome Brunner
 (C) Bandura (D) Ausubel
- (44) What will be the area of a circle having radius 14 cm? A formula is used by children to answer this question. Which intellectual skill he or she has obtained?
 (A) Differentiation (B) Concept
 (C) Rule (D) Solution of the problem
- (45) In which of the following disorders intellectual skill of children destroys?
 (A) Down Syndrome (B) ADHD
 (C) Cerebral Palsy (D) Autism
- (46) Which of the following will be on top level according to Bloom's Taxonomy?
 (A) Evaluation (B) Creation
 (C) Isolation (D) Utilization
- (47) Which of the following is unsuitable in achievement test ?
 (A) Sufficient time given to the students to answer all of the questions
 (B) Class is related with progress(development)
 (C) Education work is given at the end
 (D) Questions are selected to test the skills of a student
- (48) Which of the following measurements of middle position cannot be shown?
 (A) Mean (B) Extension
 (C) Median (D) Mode
- (49) Which of the following is not true for standard deviation (σ)?
 (A) Group Category will be as much as the low value of standard deviation
 (B) Standard deviation increases by the addition of any constant number in marks
 (C) If all the marks are multiplied by only one number then standard deviation increases at the same rate
 (D) Standard deviation is used to know the variability of the marks

- (50) Which of the following is not a characteristic of E-content?
 (A) These are only in digital format
 (B) It is presented by webpage or any other medium
 (C) It contains only animation
 (D) It can be linked with QR code.
- (51) Which of the following is not OER ?
 (A) BISAG - N (B) GROWER
 (C) NROER (D) e-pathshala
- (52) Which of the following subjects (issue) does not apply in the concept of E-learning?
 (A) Learning-Teaching is a present time field. (B) Learning has only one option.
 (C) Class learning is interesting (D) Information is available online.
- (53) Summary of which cannot be applied excepting its related groups. This is what type of modification?
 (A) Experimental modification (B) Survey
 (C) Basic Modification (D) Functional modification
- (54) "Children is creator of knowledge and not consumer." This is the conclusion of –
 (A) Behaviourism (B) Naturalism
 (C) Rationalism (D) Constructivism
- (55) Learning is a natural process and not manmade. Who gave this concept?
 (A) Aristotle (B) Rousseau
 (C) Froebel (D) Montessori
- (56) R, U, X, A, D, ? To complete the series what will replace the "?" question mark
 (A) F (B) G
 (C) H (D) I
- (57) 1, 3, 3, 6, 7, 9, 9, 12, 21, ? To complete the series what will replace the "?" question mark
 (A) 10 (B) 11
 (C) 12 (D) 13
- (58) 10, 100, 200, 310, ? To complete the series what will replace the "?" question mark
 (A) 400 (B) 410
 (C) 420 (D) 430
- (59) In a certain code TEACHER is written as VGCEJGT then in the same code CHILDREN can be written as?
 (A) EJKNEGTP (B) EGKNFITP
 (C) EJKNFGTO (D) EJKNFTGP
- (60) In a certain code TWENTY is written as 863985 and ELEVEN is written as 323039 then in the same code TWELVE can be shown by which number?
 (A) 863203 (B) 863584
 (C) 863903 (D) 863063

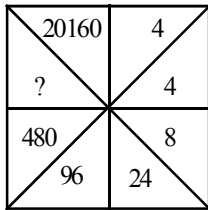
(61) In a certain code language '123' means 'bright little boy' and 145 means 'tall big boy'. In the same way '637' means 'beautiful little flower' then which number will be there for 'bright' ?

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

(62) If + means \times , \times means $-$, \div means $+$ and $-$ means \div then which of the following numbers will be the solution of $175 - 25 \div 5 + 20 \times 3 + 10$

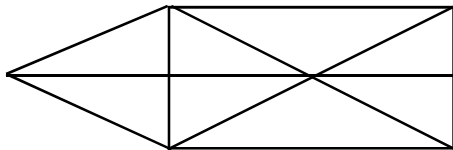
- (A) 77 (B) 160
(C) 240 (D) 2370

(63) Select the appropriate option for ' ? ' in the following figure



- (A) 860 (B) 1140
(C) 2880 (D) 3240

(64) How many triangles are there in the given figure?



- (A) 15 (B) 16 (C) 17 (D) 18

(65) What will be the angle in degrees between minute and hour hand of a clock at 3:40 ?

- (A) 140 (B) 150 (C) 130 (D) 120

(66) Select the odd pair:

- (A) Yoghurt - milk (B) Sandal - leather
(C) Peanut - oil (D) Sugar - sugarcane

(67) Arrange the letters of the given word alphabetically.

(1) INTERANAL (2) INSECT (3) INCOME (4) INTERN (5) INSIDE

- (A) 3, 2, 5, 4, 1 (B) 3, 4, 5, 2, 1
(C) 4, 5, 1, 3, 2 (D) 3, 1, 2, 4, 5

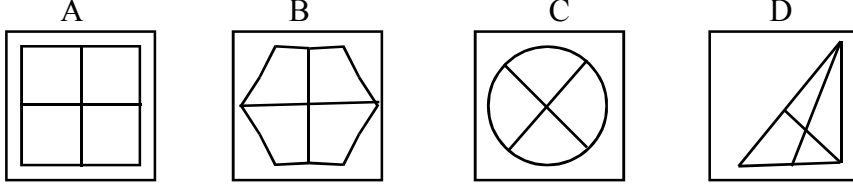
(68) If first day of a leap year is Sunday then how many Sundays will be there in the same year?

- (A) 50 (B) 51 (C) 52 (D) 53

(69) A person drives his car 50 km towards east after that he turns right and drives 30 km. Then he turns west and drives 10 km. How much away he is from the starting point?

- (A) 20 km (B) 50 km (C) 100 km (D) 60 km

(70) Select the different figure.



(A) A (B) B (C) C (D) D

(71) અગ્નિનો સમાનાર્થી છે.

(A) અનલ (B) અનિલ (C) અનંગ (D) તપસ

(72) નીચેનામાંથી કર્મધારેય સમાસનું ઉદાહરણ છે.

(A) તકસાધુ (B) કલ્પવૃક્ષ (C) પંચામૃત (D) પરમેશ્વર

(73) તમારાથી વડીલો સામે ઊંચા અવાજે ન બોલાય. - વાક્યનો પ્રકાર ઓળખો.

(A) કર્તરિ (B) કર્મણિ (C) ભાવે (D) પ્રેરક

(74) સફળતા જિંદગીની હસ્તરેખામાં નથી હોતી, ચણાયેલ ઈમારત એના નકશામાં નથી હોતી. આ કાવ્યનો પ્રકાર જણાવો.

(A) દુહા (B) મુક્તક (C) હાઈકુ (D) સોનેટ

(75) ખોટી જોડણી કઈ છે ?

(A) સુદંઢ (B) દીકરી (C) અકસ્માત્ (D) કનિષ્ઠ

(76) 'નીરવ' શબ્દનો વિરુદ્ધાર્થી શબ્દ શું થાય ?

(A) સૂમસામ (B) ઘવલ (C) પીડા (D) કોલાહલ

(77) સમાનાર્થી શબ્દોની ખોટી જોડ હોય તે વિકલ્પ કયો છે ?

(A) ખોભણ - ગુફા (B) અનરવો - હિંમતવાન (C) અડવડિયું - લથડિયું (D) આર્દ્રતા - મૃદુતા

(78) 'ઘોડાના સવારને બેસવા માટે ઘોડાની પીઠ પર રાખવાનું રૂ કે ઊંનનું આસન' - શબ્દસમૂહ માટેનો એક શબ્દ કયો છે?

(A) દળી (B) ટેકણિયું (C) પીઠિકા (D) માંચડો

(79) વિરામચિહ્નોનો ઉચિત પ્રયોગ ન થયો હોય તેવું વાક્ય કયું છે ?

(A) હાશ ! હવે નિરાંત થઈ !
 (B) પ્રશ્નપત્ર જોઈ વિદ્યાર્થીઓ મૂંઝાયા, એમને કાંઈ સૂઝ પડી નહીં, ઉત્તરપત્રો મૂકી દઈને ચલતી પકડી.
 (C) મેં જાણ્યું : મારાં લખાણો એને ગમતાં નથી.
 (D)તો મારો દુશ્મન છે.

(80) શબ્દ અને તેના અનેકાર્થી શબ્દોની ખોટી જોડ હોય તેવો વિકલ્પ કયો છે ?

(A) ગુણ - પણછ, દોરું (B) કૂટ - ઠગાઈ, શિખર
 (C) કાંત - મન, અંતઃકરણ (D) કર - કિરણ, સૂંઢ

(81) આપેલ વાક્યોમાં રેખાંકિત કરેલ શબ્દનો ઉચિત પ્રયોગ થયો હોય તેવું વાક્ય કયું છે ?

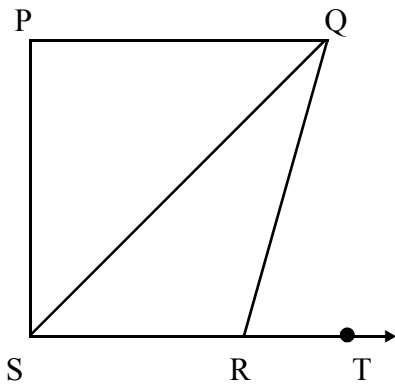
(A) મેં આ પત્ર કે ઠરાવ વાંચ્યા નથી. (B) કામ વેળાસર થાય તે જ અગત્યનું છે.
 (C) સાંજે છ વાગે જાહેર ગ્રંથાલય બંધ થાય છે. (D) દરેકે આવકમાંથી યથાશક્તિ પ્રમાણે દાન કરવું જોઈએ.

- (82) 'દેવ્યૈશ્વર્ય' શબ્દનો સંધિવિગ્રહ શું થાય ?
 (A) દેવ + ઐશ્વર્ય (B) દેવે + એશ્વર્ય
 (C) દેવ્ય + ઐશ્વર્ય (D) દેવી + ઐશ્વર્ય
- (83) આપેલાં વાક્યોમાં 'કર્મણિ વાક્ય' કયું છે ?
 (A) એ સમયમાં લોકો જુગાર રમતા. (B) એણે પચાસ માણસોને જમાડ્યા.
 (C) સરકાર તરફથી આ મહિને અનાજ અપાયું છે. (D) અશોક કંઈ બોલ્યો ન હોત.
- (84) 'છત્રી પર નામ-સરનામું લખવાનો ઉપાય ખરેખર કારગત નીવડ્યો.' - વાક્યમાં રેખાંકિત કરેલ શબ્દ 'ખરેખર' ક્રિયાવિશેષણનો કયો પ્રકાર છે ?
 (A) અભિગમવાચી ક્રિયાવિશેષણ (B) સમયવાચક ક્રિયાવિશેષણ
 (C) રીતિવાચક ક્રિયાવિશેષણ (D) સ્થાનવાચક ક્રિયાવિશેષણ
- (85) 'મારો હંસલો નાનો ને દેવળ જૂનું રે થયું.' - અલંકાર ઓળખાવો.
 (A) વ્યક્તિરેક અલંકાર (B) અતિશયોક્તિ અલંકાર
 (C) રૂપક અલંકાર (D) ઉપમા અલંકાર
- (86) Mahesh was too smart. (Remove 'too' without changing the meaning.)
 (A) Mahesh was not smart at all.
 (B) Mahesh was smart more than required.
 (C) Mahesh was foolish.
 (D) I was doubtful whether Mahesh was smart or not.
- (87) INS Arihant is Indian Naval ship. (Fill in the blanks)
 (A) The & an (B) An & an
 (C) A & an (D) The & the
- (88) Most students have brought their homework. of them have not completed it yet.
 (A) None (B) Few
 (C) Each (D) A little
- (89) મેં મારા વાળ કપાવ્યા. - આ વાક્યનું ચોક્કસ અંગ્રેજી ભાષાંતર શું થશે ?
 (A) I cut my hair. (B) I clipped my hair.
 (C) I got my hair cut. (D) I had a nice hair cut.
- (90) Give the nearest meaning of word : 'Phantom'.
 (A) existent (B) imaginary
 (C) corporeal (D) tangible
- (91) Give the verb form of 'little'.
 (A) alittle (B) unlittle
 (C) belittle (D) bilittle

- (92) Change the voice : “What caused COVID-19 ?”
 (A) What was COVID-19 caused by ? (B) What was caused by COVID-19 ?
 (C) By what is COVID-19 caused ? (D) By what COVID-19 was caused ?
- (93) Select the word or phrase which is closest to the opposite in meaning of the underlined word : “Rahul will never accept your request.”
 (A) turn over (B) turn down
 (C) turn up (D) reject
- (94) Add a suitable question tag : Radha, one of my neighbours slipped off a staircase. ?
 (A) did she (B) does she
 (C) doesn't she (D) didn't she
- (95) Fill in the blanks with appropriate set of prepositions : Nidhi travelled her mother all the world when she was 17 years old.
 (A) by, above (B) for, around
 (C) with, around (D) with, over
- (96) Turn this sentence into English : “હજુ પણ હું તેને ત્યાં એકલી ઊભેલી જોઈ શકતો હતો.”
 (A) I could still saw her standing there alone. (B) I could still see her stood there alone.
 (C) I could still see her standing there alone. (D) I can still see her standing there alone.
- (97) Fill in the blanks with the appropriate word / words : Rohan and Nayan have been on vacation May 2023. They to Manali for a week.
 (A) for, had gone (B) since, had gone
 (C) for, have gone (D) since, have gone
- (98) Mantra got the first prize last week. Find out the correct option to get the underlined answer.
 (A) Which prize did Mantra get last week ?
 (B) When did Mantra get the first prize ?
 (C) Which prize Mantra got last week ?
 (D) Where did Mantra get the first prize ?
- (99) Ravi in this company for five years. Find out correct form of verb from the options.
 (A) works (B) is working
 (C) has been working (D) have worked
- (100) Find out the correct spelling from the options.
 (A) Spactacular (B) Spectacular
 (C) Spactacolor (D) Spectecolor

- (101) In $\triangle ABC$, $BE \perp AC$, $D \in \overline{BC}$, $\angle EBC = 40^\circ$, $\angle DAC = 30^\circ$, then $\angle ACB + \angle ADB = \dots\dots\dots$
 (A) 80° (B) 50° (C) 30° (D) 130°

- (102) In figure, If $PQ \perp PS$, $PQ \parallel SR$, $\angle SQR = 28^\circ$ and $\angle QRT = 65^\circ$ then $\angle PSR = \dots\dots\dots$



- (A) 90° (B) 53° (C) 37° (D) 115°

- (103) ABCD is a rhombus. If $AC = 10$ cm and $BD = 24$ cm, then perimeter of ABCD = $\dots\dots\dots$ cm.
 (A) 13 (B) 26 (C) 52 (D) 48

- (104) For two positive integers a and b, if H.C.F. (a, b) = 13 and L. C. M. (a, b) = 455 then $a \times b = \dots\dots\dots$

- (A) 5905 (B) 5915 (C) 5815 (D) 5925

- (105) If $\frac{5}{x} - \frac{4}{y} = 4$ and $\frac{4}{x} - \frac{5}{y} = 5$ then $\frac{1}{x} - \frac{1}{y} = \dots\dots\dots$ (x, y \neq 0)

- (A) 5 (B) 4 (C) 9 (D) 1

- (106) $10 + (10 + 10) + (10 + 10 + 10) + \dots\dots\dots + (10 + 10 + \dots\dots\dots (n-1))$ times.

- (A) $5n(n+1)$ (B) $5n(n-1)$ (C) $10n(n-1)$ (D) $10n(n+1)$

- (107) In $\triangle XYZ$ and $\triangle PQR$, $XYZ \leftrightarrow PQR$ is a similarity, $XY = 12$, $YZ = 8$, $ZX = 16$, $PR = 8$ so $PQ + QR = \dots\dots\dots$

- (A) 15 (B) 9 (C) 20 (D) 10

- (108) In $\triangle ABC$, D, E & F are the mid points of \overline{AB} , \overline{BC} , \overline{AC} respectively, then the correspondence $DEF \leftrightarrow \dots\dots\dots$ is a similarity.

- (A) ABC (B) BCA (C) CAB (D) CBA

- (109) If P (3,0), Q (0, 0), R (1, 3) and S (4, 3) then $\square PQRS$ is a $\dots\dots\dots$

- (A) Rectangle (B) Square (C) Parallelogram (D) Rhombus

- (110) $\sin 48^\circ \sec 42^\circ + \cos 48^\circ \operatorname{cosec} 42^\circ = \dots\dots\dots$

- (A) 2 (B) 1 (C) $\frac{3}{4}$ (D) 0

- (111) $\sin(A - B) \cos(A + B) - \cos(A - B) \sin(A + B) = \dots\dots\dots$
 (A) $-\cos 2B$ (B) $\cos 2B$ (C) $\sin 2B$ (D) $-\sin 2B$
- (112) Cylindrical water tank whose radius is 2.1 meter and height is 5 meter then its capacity is $\dots\dots\dots$ (meter)³
 (A) 693 (B) 6.93 (C) 69.3 (D) 0.693
- (113) The angle of depression of the stone from the top of the tower is 45° and the height of the tower is 30 meter then the distance between the tower and stone is $\dots\dots\dots$ meter.
 (A) 30 (B) 20 (C) 15 (D) 45
- (114) As the angle of elevation of the sun increases from 30° to 60° , the length of shadow of a building gets reduced by 10 meters, then height of building is $\dots\dots\dots$ meters.
 (A) 5 (B) $10\sqrt{3}$ (C) $5\sqrt{3}$ (D) 10
- (115) The volume of sphere with diameter 1 cm is $\dots\dots\dots$ cm³.
 (A) $\frac{4\pi}{3}$ (B) $\frac{2\pi}{3}$ (C) $\frac{\pi}{6}$ (D) $\frac{\pi}{24}$
- (116) Two dice are thrown simultaneously, then probability that sum of dice will be prime number is $\dots\dots\dots$
 (A) $\frac{1}{3}$ (B) $\frac{7}{18}$
 (C) $\frac{1}{6}$ (D) $\frac{5}{12}$
- (117) The probability that a leap year will have 52 Sundays is $\dots\dots\dots$
 (A) 1 (B) $\frac{1}{7}$ (C) $\frac{2}{7}$ (D) 0
- (118) $\dots\dots\dots$ cannot be the measures of the sides of triangle.
 (A) 10, 12, 14 (B) 2, 3, 4
 (C) 2, 4, 10 (D) 8, 9, 10
- (119) The mean of $\frac{2}{5}, \frac{5}{7}, \frac{3}{5}, \frac{2}{7}$ is $\dots\dots\dots$
 (A) $\frac{3}{5}$ (B) 1 (C) $\frac{1}{2}$ (D) 2
- (120) If $\tan \theta + \sin \theta = a$ and $\tan \theta - \sin \theta = b$, then $a^2 - b^2 = \dots\dots\dots$
 (A) $2\sqrt{ab}$ (B) $4ab$ (C) $2ab$ (D) $4\sqrt{ab}$

(121) $2\text{FeSO}_4 \xrightarrow{\text{heat}} \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$. This reaction is

- (A) Double displacement reaction (B) Combination reaction
(C) Displacement reaction (D) Decomposition reaction

(122) Match the following with the correct response.

- | | |
|-----------------|----------------------------------|
| (1) Metal | (a) Acidic oxides |
| (2) Non - metal | (b) Neutral oxides |
| (3) Amphoteric | (c) Both acidic and basic oxides |
| (4) Salt | (d) Basic oxides |
- (A) 1 - d, 2 - a, 3 - c, 4 - b (B) 1 - c, 2 - b, 3 - d, 4 - a
(C) 1 - a, 2 - c, 3 - b, 4 - d (D) 1 - b, 2 - d, 3 - a, 4 - c

(123) A body is thrown vertically upwards with velocity v , the greatest height h to which it will rise is

- (A) $\frac{V}{2g}$ (B) $\frac{V^2}{2g}$ (C) $\frac{V^2}{g}$ (D) $\frac{V}{g}$

(124) The wave number of wave of wavelength 10 m is

- (A) 10 m^{-1} (B) 100 m^{-1} (C) 0.01 m^{-1} (D) 0.1 m^{-1}

(125) Which is the formula of alkyne having 9 carbon atoms ?

- (A) C_9H_{14} (B) C_9H_{18} (C) C_9H_{16} (D) C_9H_{20}

(126) Which is reducing agent in reaction - $3\text{O}_{2(g)} + 2\text{H}_2\text{S}_{(g)} \rightarrow 2\text{H}_2\text{O}_{(l)} + 2\text{SO}_{2(g)}$?

- (A) O_2 (B) H_2O (C) H_2S (D) SO_2

(127) What is the molecular formula of sodium zincate ?

- (A) $\text{NaZn}(\text{OH})_3$ (B) $\text{NaZn}(\text{OH})_4$
(C) $\text{Na}_2\text{Zn}(\text{OH})_4$ (D) NaZnOH

(128) Which of the lens with focal length 10 cm, 20 cm, 25 cm, 50 cm has maximum power?

- (A) 25 cm (B) 20 cm (C) 10 cm (D) 50 cm

(129) Which compound neutralizes the effect of acidity in stomach?

- (A) NaHCO_3 (B) $\text{Mg}(\text{OH})_2$ (C) CaCO_3 (D) all of these

(130) Which of the following is a mis-matched pair ?

- (A) Thigmotropism - stem tendrils (B) Photonasty - lotus flower
(C) Thigmonasty - leaves of mimosa (D) Thigmonasty - flowers of tulip

- (131) What is used from the following by wrist – watch repairer ?
- (A) Convex lens (B) Concave lens
(C) Convex mirror (D) Concave mirror
- (132) Where is the image formed in the eye of a person having farsightedness?
- (A) on retina (B) behind retina
(C) on the pupil (D) in front of the retina
- (133) Which of the following non-metals possesses shining surface ?.
- (A) Iodine (B) Carbon
(C) Sulphur (D) Phosphorus
- (134) 100 w, 220 v is written on one bulb. What will be resistance of this bulb ?
- (A) 22Ω (B) $(22)^2 \Omega$
(C) $(22)^{-2} \Omega$ (D) $(22)^{-1} \Omega$
- (135) Which medicine is prepared using $\text{NH}_{3(g)}$?
- (A) Paracetamol (B) D - Cold
(C) Aspirin (D) Para-amino benzoic acid
- (136) A person suffering from which defect should keep the power of spectacle lens positive?
- (A) Presbyopia (B) Cataracts
(C) Myopia (D) Hypermetropia
- (137) Plant responds to stimuli by growing in a particular direction.
- (A) very quickly (B) very slowly
(C) medium speed (D) very fast
- (138) An element having atomic number will form a basic oxide.
- (A) 7 (B) 17 (C) 14 (D) 11
- (139) 1 picometer is
- (A) 10^{-10} m (B) 10^{-9} m
(C) 10^{-12} m (D) 10^{-11} m
- (140) Which one of the following statements is not true ?
- (A) The molecules in a solid vibrate about a fixed position.
(B) The molecules in a liquid are arranged in a regular pattern
(C) The molecules in a gas exert negligible small forces on each other, except during Collisions.
(D) The molecules of a gas occupy all the space available.

- (141) When water at 0° C freezes to form ice at the same temperature of 0° C, then it
- (A) Absorbs some heat (B) Releases some heat
(C) Neither absorbs nor releases heat (D) Absorbs exactly 3.34 x 10⁵J/Kg heat
- (142) Which of the following statements is incorrect?
- (1) Parenchyma tissues have intercellular spaces.
(2) Collenchymatous tissues are irregularly thickened at corners.
(3) Apical and intercalary meristems are permanent tissues.
(4) Meristematic tissues, in its early stage, lack vacuoles.
- (A) 1 & 2 (B) Only 3 (C) 3 & 4 (D) Only 2
- (143) A person met with an accident in which two long bones of his hand were dislocated. Which among the following may be the possible reason for this?
- (A) Tendon breaks (B) Break of skeletal muscles tissue
(C) Ligament breaks (D) Areolar tissue breaks
- (144) How many times an atom of Sulphur is heavier than an atom of Carbon?
- (A) 32 times (B) 12 times (C) $\frac{8}{3}$ times (D) $\frac{12}{32}$ times
- (145) Name the process by which we can obtain various gases from the air ?
- (A) Distillation (B) Hydrolysis (C) Fractional Distillation (D) Froth Flotation
- (146) Paramecium belongs to which species?
- (A) Fungi (B) Prokaryotes (C) Protista (D) Porifera
- (147)does not contain water of crystallization ?
- (A) Blue vitriol (B) Gypsum (C) Baking soda (D) Washing soda
- (148) Which of the following is a fungal disease causing maximum deaths of poultry birds?
- (A) Pullorium (B) Coryza (C) Ricketts (D) Aspergillois
- (149) 'Water pollution' can be defined in several ways. Which of the following statements does not give the correct definition ?
- (A) The addition of the undesirable substances to water bodies
(B) The removal of the desirable substances from water bodies
(C) A change in pressure of the water bodies
(D) A change in temperature of the water bodies.
- (150) Many of the people suffer from the problem of acnes and feel annoyed of the ugly skin texture caused due to the acne spots. Which of the following microorganisms causing these Acne ?
- (A) H1N1 virus (B) Trypanosoma (C) Leishmania (D) Staphylococcus

- (151) Which of the following can produce longitudinal as well as transverse waves under different conditions ?
 (A) Bats (B) Slinky (C) Tuning for (D) None of these
- (152) Which of the following can sometimes be 'zero' for a moving body?
 (i) Average velocity
 (ii) Distance travelled
 (iii) Average speed
 (iv) Displacement
 (A) Only (i) (B) (i) and (ii) (C) (i) and (iv) (D) Only (iv)
- (153) In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?
 (A) Lead sulphate (insoluble) (B) Lead acetate
 (C) Ammonium nitrate (D) Potassium sulphate
- (154) Which of the following reaction will not take place ?
 (A) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$ (B) $2\text{KBr} + \text{Cl}_2 \rightarrow 2\text{KCl} + \text{Br}_2$
 (C) $\text{Zn} + \text{MgSO}_4 \rightarrow \text{ZnSO}_4 + \text{Mg}$ (D) $\text{Mg} + \text{FeSO}_4 \rightarrow \text{MgSO}_4 + \text{Fe}$
- (155) Which of the following statements is correct about an aqueous solution of an acid and of a base?
 (i) Higher the pH, stronger the acid
 (ii) Higher the pH, weaker the acid
 (iii) Lower the pH, stronger the base
 (iv) Lower the pH, weaker the base
 (A) (i) and (iii) (B) (ii) and (iii) (C) (i) and (iv) (D) (ii) and (iv)
- (156) Give the IUPAC name of $\text{CH}_3\text{COOC}_2\text{H}_5$.
 (A) Ethyl ethanoic acid (B) Butanoate
 (C) Ethyl ethanoate (D) Ethyl methyl carboxylic acid
- (157) Which hormone regulates the ionic balance in the body?
 (A) Insulin (B) Thyroxine (C) Testosterone (D) Vasopressin
- (158) If a round, green seeded pea-plant (RRyy) is crossed with a wrinkled yellow seeded pea-plant (rrYY), the seeds produced in F1 generation are
 (A) round and green (B) round and yellow
 (C) wrinkled and green (D) wrinkled and yellow

(159) In the given foodchain if the amount of energy at the fourth trophic level is 4 kJ, what will be the energy available at the producer level?

Grass → Grasshopper → Frog → Snake

- (A) 4 kJ (B) 40 kJ (C) 400 kJ (D) 4000 kJ

(160) One cannot see through the fog, because

- (A) refractive index of the fog is very high (B) light suffers total reflection at droplets
(C) fog absorbs light (D) light is scattered by the droplets

(161) $(\sqrt{3} + 2)(\sqrt{3} - \sqrt{2}) = \dots\dots\dots$

- (A) $\sqrt{3}$ (B) $\sqrt{2}$ (C) 5 (D) 1

(162) $(15)^3 - (9)^3 - (6)^3 = \dots\dots\dots$

- (A) 1215 (B) 2430 (C) - 810 (D) 810

(163) If $x + 3$ is one of the factors of $x^3 + 2x^2 - ax - 18$ then $a = \dots\dots\dots$

- (A) - 9 (B) + 9 (C) + 3 (D) - 3

(164) Give your opinion for the below statement :- “only one line can pass through a single point.”

- (A) True (B) False (C) Not sure (D) Hypothesis

(165) The number of dimensions of a plane is

- (A) 1 (B) 2 (C) 3 (D) 0

(166) If $m \angle A$ and $m \angle B$ are supplementary angles and $m \angle A = x + 10^\circ$ and $m \angle B = x - 10^\circ$ then $m \angle A$ and $m \angle B = \dots\dots\dots$

- (A) $m \angle A = 100^\circ$ $m \angle B = 80^\circ$ (B) $m \angle A = 84^\circ$ $m \angle B = 96^\circ$
(C) $m \angle A = 70^\circ$ $m \angle B = 110^\circ$ (D) $m \angle A = 150^\circ$ $m \angle B = 30^\circ$

(167) ABCD is a rectangle. If $AB = 5$ cm and $BC = 12$ cm then $BD = \dots\dots\dots$ cm

- (A) 17 (B) 13 (C) 8.5 (D) 1

(168) A circle divides the plane, on which it lies in

- (A) One (B) Two (C) Three (D) Four

(169) For a circle with radius 5 cm, the length of a chord lying at a distance 4 cm from the centre is

- (A) 5 (B) 3.5 (C) 2 (D) 6

(170) PQRS is a square. If $PQ = 10$ cm then $PR = \dots\dots\dots$

- (A) $2\sqrt{10}$ (B) $10\sqrt{2}$ (C) 10 (D) 20

(171) A cuboidal tank measures 8 m x 6 m x 5 m. Find its volume in liters.

- (A) 240 m^3 (B) 420 m^3
 (C) 200 m^3 (D) 20 m^3

(172) The formula to find volume of a cone is

- (A) $4\pi r^2$ (B) $2\pi r$
 (C) $\frac{1}{3}\pi r^2 h$ (D) $\frac{4}{3}\pi r^3$

(173) The sum of all deviations from the mean of a data is $\sum(X_i - \bar{X}) = \dots\dots\dots$

- (A) 1 (B) > 1 (C) 0 (D) < 1

(174) The mean of first five odd natural numbers is

- (A) 3 (B) 5 (C) 4 (D) 25

(175) Find median of 14, 6, 2, 13, 9, 15 & 12 is

- (A) 12 (B) 10 (C) 2 (D) 15

(176) A card is drawn at a random from a well shuffled pack of cards. The probability of the card being a king is

- (A) $\frac{1}{52}$ (B) $\frac{1}{26}$ (C) $\frac{1}{13}$ (D) 1

(177) The mode of observations 17, 10, 13, 18, 19, 22, 13, 26, 9, 13 is

- (A) 19 (B) 9 (C) 17 (D) 13

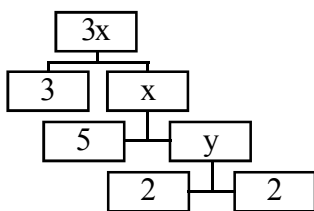
(178) An angle in a semicircle is always a form of angle.

- (A) obtuse angle (B) acute angle
 (C) scalene angle (D) right angle

(179) Express $\frac{p}{q}$ form of $0.\overline{001}$ as

- (A) $\frac{1}{999}$ (B) $\frac{1}{99.9}$ (C) $\frac{1}{9.99}$ (D) $\frac{1}{0.999}$

(180) From the given factor tree $x + y = \dots\dots\dots$



- (A) 4 (B) 20
 (C) 24 (D) 80

- (181) Which of the following ways you as a science teacher will adopt to analyze the achievement test data of your students?
- (A) Subject and topic wise (B) Learning outcome wise
(C) Response in MCQ (Multiple Choice Questions) (D) All of the above
- (182) In teaching a topic, “parts of flowers” the method you will use
- (A) Lecture method (B) Scientific method
(C) Discussion method (D) Demonstration method
- (183) “A science teacher must have necessary knowledge for the various problems faced by him/her in the teaching of his/her subject”. What can be most prevalent problems from the given below options?
- (A) Lack of facilities, resources, skilled teachers
(B) Overcrowded classes and time bound completion of syllabus
(C) Lack of autonomy given to teacher to experiment innovations
(D) All of the above
- (184) What are the three components of the educational process?
- (A) Education, teacher and books (B) Teacher, student and education
(C) Teaching, learning and practice (D) Direction, instruction and skill.
- (185) Which is the characteristic of the project method?
- (A) Problematic act
(B) Carried in its natural setting
(C) Used for all-round-development of child’s personality.
(D) A voluntary undertaking.
- (186) In a biology class, students are given a set of microscope slides containing different types of cells and asked to identify and classify them based on their structures. Which of the following process skills is being promoted in this activity?
- (A) Observation and measurement (B) Prediction and experimentation
(C) Communication and interpretation (D) Data analysis and conclusion drawing
- (187) Which of the following is an example of a scientific attitude that can be promoted in the classroom?
- i) Blind acceptance of scientific ideas.
ii) Disregard evidence that contradicts a hypothesis.
iii) Open-mindedness and willingness to revise hypothesis based on new evidence
- (A) i (B) ii (C) iii (D) All of the above

- (188) Which of the following approaches to teaching science in the classroom is completely teacher-centered?
- (A) Hands-on experiment approach (B) Inquiry approach
(C) Expository transmission approach (D) Discovery approach
- (189) The continuous and comprehensive evaluation in science means—
- (A) summative and formative assessment
(B) more frequent test and examination
(C) routine activities and exercises to assess learning
(D) evaluation of all aspects of science
- (190) A scoring guide used to evaluate the quality of students is called
- (A) Rubrics (B) Checklists (C) Inventories (D) Rating scales
- (191) What is the final goal / aim by study of Science?
- (A) Solving of a problem (B) Checking of Hypothesis
(C) Establishment of Principles (D) All of above
- (192) Which of the following statements is correct?
- (A) Deductive approach is less effective in primary & secondary school learners.
(B) Learning through Inductive approach is time consuming.
(C) Deductive approach emphasizes less on thinking / reflection.
(D) All of the above
- (193) Arrange following steps of Project method in chronological order.
- (1) Collection of facts related with problem
(2) Evaluation of project
(3) Execution of the project
(4) Drawing an Outline
- (A) 1 2 3 4 (B) 4 3 2 1 (C) 2 1 3 4 (D) 1 4 3 2
- (194) Which of the following statements is correct?
- (1) In disciplinary approach the focus is more on subject rather than the process.
(2) The disciplinary approach does not provide much opportunities for students' creativity
(3) The disciplinary approach mostly leads to chalk & talk based teaching.
(4) The disciplinary approach requires highly knowledgeable and expert teachers.
- (A) 2, 3, 4 (B) 1, 2, 3 (C) 1, 2, 3, 4 (D) 1, 3, 4

- (195) Which of the following is effective strategy from promoting scientific literacy?
- (A) Memorizing scientific facts
 (B) Conducting predetermined experiments.
 (C) Engaging in discussion and debates about current scientific issues.
- (A) A Only (B) B Only (C) C Only (D) All of the above
- (196) What is the role of teacher in lecture – cum – discussion method?
- (A) The teacher must be a facilitator
 (B) The teacher must be a guide and working partner of the students.
 (C) Encourage student to participate actively.
 (D) None of the above.
- (197) Teacher is making students involved in measuring angles of various triangles by giving angles and students deriving that the sum of all angles is 180. Which principle of teaching involved in above statement?
- (A) Proceed from known to unknown (B) Proceed from simple to complex
 (C) Proceed from concrete to abstract (D) Proceed from analysis to synthesis
- (198) Arrange following steps of Curriculum development in chronological order.
- (1) Formulating objectives and learning goals
 (2) Assessing the educational needs
 (3) Careful selection of learning experiences to accomplish these objectives
 (4) Selecting the rich and valuable content
- (A) 2 1 3 4 (B) 4 3 2 1 (C) 3 1 2 4 (D) 1 4 3 2
- (199) Arrange following steps of Problem Solving in chronological order.
- (1) Hypothesis
 (2) Solution
 (3) Modification
 (4) Evaluation
- (A) 2 1 3 4 (B) 4 3 2 1 (C) 3 1 2 4 (D) 1 2 4 3
- (200) The teacher is explaining types of bone by showing the human skeleton. Which principle of teaching is involved in above teaching?
- (A) Proceed from whole to part (B) Proceed from simple to complex
 (C) Proceed from concrete to abstract (D) Proceed from analysis to synthesis



Space for Rough Work

પરીક્ષા પૂરી થયા બાદ ઉત્તરપત્ર (OMR SHEET) ખંડ નિરીક્ષકને ખુલ્લું (કવરમાં મુક્યા વગર) પરત કર્યા બાદ જ પરીક્ષા ખંડ છોડવાનો રહેશે. તેમ કરવામાં કસૂર થયેથી શિસ્તભંગના પગલાં ગણી પરીક્ષા માટે જે તે ઉમેદવારને ગેરલાયક ઠેરવવામાં આવશે.