

AGNIPATH SCHEME

INDIAN ARMY

ACHIEFR

TECHNICAL

PHASEI Online

Computer Based Written Exam (CEE)

Ests



Equally Useful for Aginveer Technical (Aviation/Ammunition Examiner)

with
OFFICIAL ONLINE
PRACTICE TEST (SOLVED



INDIAN ARMY

AGNIVEER TECHNICAL

Phase I Online Computer Based Written Exam (CEE)



Author Major RD Ahluwalia



ARIHANT PUBLICATIONS (INDIA) LIMITED

*****arihant

ARIHANT PUBLICATIONS (INDIA) LIMITED

All Rights Reserved

© Publisher

No part of this publication may be re-produced, stored in a retrieval system or by any means, electronic, mechanical, photocopying, recording, scanning, web or otherwise without the written permission of the publisher. Arihant has obtained all the information in this book from the sources believed to be reliable and true. However, Arihant or its editors or authors or illustrators don't take any responsibility for the absolute accuracy of any information published and the damage or loss suffered thereupon.

All disputes subject to Meerut (UP) jurisdiction only.

5 Administrative & Production Offices

Regd. Office

'Ramchhaya' 4577/15, Agarwal Road, Darya Ganj, New Delhi -110002 Tele: 011-47630600, 43518550

Head Office

Kalindi, TP Nagar, Meerut (UP) - 250002 Tel: 0121-7156203, 7156204

⋾ Sales & Support Offices

Agra, Ahmedabad, Bengaluru, Bareilly, Chennai, Delhi, Guwahati, Hyderabad, Jaipur, Jhansi, Kolkata, Lucknow, Nagpur & Pune.

또 **ISBN** 978-93-88127-19-6

Я PRICE ₹205.00

PO No: TXT-XX-XXXXXXXX-X-XX

Published by Arihant Publications (India) Ltd.

For further information about the books published by Arihant, log on to www.arihantbooks.com or e-mail at info@arihantbooks.com

Follow us on **f E D**







CONTENTS

OFFICIAL ONLINE PRACTICE TEST 1-8 PRACTICE SETS 1-50 • Practice Set 01 1-5 • Practice Set 26 139-144 • Practice Set 02 6-11 • Practice Set 27 145-150 • Practice Set 03 12-17 • Practice Set 28 151-155 • Practice Set 04 18-23 • Practice Set 29 156-161 • Practice Set 05 24-28 • Practice Set 30 162-167 • Practice Set 06 29-33 • Practice Set 31 168-173					
PRACTICE SETS 1-	<u>-50</u>				
 Practice Set 01 	1-5	 Practice Set 26 	139-144		
 Practice Set 02 	6-11	 Practice Set 27 	145-150		
 Practice Set 03 	12-17	 Practice Set 28 	151-155		
 Practice Set 04 	18-23	 Practice Set 29 	156-161		
 Practice Set 05 	24-28	 Practice Set 30 	162-167		
 Practice Set 06 	29-33	 Practice Set 31 	168-173		
 Practice Set 07 	34-38	 Practice Set 32 	174-179		
 Practice Set 08 	39-43	 Practice Set 33 	180-185		
 Practice Set 09 	44-49	 Practice Set 34 	186-190		
 Practice Set 10 	50-55	 Practice Set 35 	191-196		
 Practice Set 11 	56-60	 Practice Set 36 	197-202		
 Practice Set 12 	61-66	Practice Set 37	203-208		
 Practice Set 13 	67-72	 Practice Set 38 	209-214		
 Practice Set 14 	73-77	 Practice Set 39 	215-220		
 Practice Set 15 	78-82	Practice Set 40	221-226		
 Practice Set 16 	83-87	 Practice Set 41 	227-232		
 Practice Set 17 	88-92	 Practice Set 42 	233-238		
 Practice Set 18 	93-98	Practice Set 43	239-244		
 Practice Set 19 	99-104	 Practice Set 44 	245-249		
 Practice Set 20 	105-109	Practice Set 45	250-255		
 Practice Set 21 	110-115	 Practice Set 46 	256-261		
 Practice Set 22 	116-121	 Practice Set 47 	262-266		
 Practice Set 23 	122-126	 Practice Set 48 	267-272		
 Practice Set 24 	127-132	 Practice Set 49 	273-278		
 Practice Set 25 	133-138	 Practice Set 50 	279-284		

SYLLABUS

GENERAL KNOWLEDGE

The test will include questions relating to India and its neighbouring countries especially pertaining to History, Culture, Geography and Who's Who. In addition Abbreviations, Sports, Awards and Prizes, Terminology, Indian Armed Forces, Continents and Sub Continents, Inventions and Discoveries, The Constitution of India, International Organisations, Books and Authors, Knowledge of Important Events that have happened in India and at world level in the recent years, Current Important World Events, Prominent Personalities, etc.

PHYSICS

Physical Properties and States of Matter, Mass, Weight, Volume, Density and Specific Gravity, Principle of Archimedes, Pressure Barometer, Motion of Objects, Velocity and Acceleration, Newtons Laws of Motion, Force and Momentum, Parallelogram of Forces, Stability and Equilibrium of Bodies, Gravitation, Elementary Ideas of Work, Power and Energy, Heat and its Effects, Sound Waves and their properties, Reflection and Refraction. Spherical Mirrors and Lenses, Type and properties of Magnet, Static and Current Electricity, Conductors and Non-conductors, Ohms Law, Simple Electrical Circuits, Heating.

MATHEMATICS

- (i) Algebra
- (ii) Matrices & Determinants
- (iii) Analytical Geometry
- (iv) Trigonometry
- (v) Integral Calculus
- (vi) Differential Calculus
- (vii) Probability and Statistics
- (viii) Number Systems
- (ix) Fundamental Arithmetical Operations
- (x) Mensuration
- (xi) Area, Volume and Surface Area

CHEMISTRY

Physical and Chemical Changes, Elements, Mixtures and Compounds, Symbols, Formulae and Simple Chemical Equations, Law of Chemical Combination, Properties of Air and Water, Preparation and Properties of Hydrogen, Oxygen, Nitrogen and Carbondioxide, Oxidation and Reduction, Acids, Bases and Salts, Carbon and its forms, Natural and Artificial Fertilizers, Elementary Ideas about the Structure of Atom, Atomic, Equivalent and Molecular Weights, Valency.

Note The above syllabus is not a comprehensive list of topics pertaining to the subject. Questions are designed to test the candidate's general awareness of the environment around him and its application to society. Questions are also designed to test knowledge of current events and such matters of everyday observation and experience as may be expected of an educated person. At times questions may be asked other than the above topics, but definitely within the syllabus of CBSE.

All About Online CEE

The screening of candidates will be carried out for following categories as per qualitative requirement.

S.NO.	Category	Education	Age
(a)	Agniveer (Technical)	10 + 2/Intermediate Exam Pass in Science with Physics, Chemistry, Maths and English with 50% marks in aggregate and 40% in each subject. OR	17 1 22
(b)	Agniveer Technical (Aviation & Ammunition Examiner)	10+ 2/Intermediate Exam Pass from any recognized state education board or central education board to include NIOS and ITI course of minimum one year in required field with NSOF level 4 or above.	$17\frac{1}{2}-23$

Note: The upper age limit has been relaxed from 21 years to 23 years as a onetime measure for the Recruiting Year 2022-23.

Height & Weight - As per policy in vogue.

Relaxation in Physical Standards.

S.NO.	Category	Height (cms)	Chest (cms)	Weights (kgs)
(a)	For son of service & ex-servicement, war widow and widow of ex-servicemen.	2	1	2
(b)	For adopted son/son-in-law of a war widow, if she has no son. Adoption had done during the lifetime of a soldier will be valid for the purpose of award of bonus marks/Concessions and enrolment through UHQ enrolment.	2	1	2

Note: An elligible candidate can be grated prescribed relaxations in all three measurements i.e. height, chest and weight.

Special Physical Standards. As applicable.

Candidates will be tested as stated below

Physical Fitness Test (At Rally Site)									
1.6 km Run		Beam (Pull Ups)			9 Feet Ditch	Zig-Zag Balance			
Group	Time	Marks	Pull Ups	Marks	Need to Qualify	Need to Qualify			
Group-I	Group-I Up till 5 min 30 sec	60	10	40					
Group-II	5 min 31 sec to 5 min 45 sec	48	9 8 7 6	33 27 21 16					

Physical Measurement (At Rally Site)

Physical measurement will be carried out as per the Physical standards.

Medical Test

- (a) As per laid down medical standards at the Rally Site.
- (b) Unfit candidates will be referred to MH for specialist review. Candidates to report to designated Military Hospital within 5 days from referral and review medical exam to be completed by Military Hospital within 14 days as per policy.

Written Test through Common Entrance Examination (CEE)

- (a) Will be conducted for medically fit candidates at nominated venue. Date and time of written test will be intimated at rally site and through Admit Cards.
- (b) Admit Card for the CEE for the Rally Fit candidates will be issued at Rally Site itself.
- (c) Admit Card for the CEE for the review Fit cases will be issued after getting medically fit by concerned specialist/specialists at MH.

Types of Questions

Asked in Exam and Sample Questions

General Knowledge

Though as per syllabus, this section is in examination, 10 questions will be asked from this section including reasoning.

- After analysing previous papers, it has been concluded that rare questions are asked from History, Geography and Constitution till now.
- Majority of questions are asked from Sports, Culture, Static GK like Books and Author, Country and Capital etc.
- Sometimes 1-2 Question are also asked from current affairs.

Sample Questions

- 1. Who wrote the song 'Sare jahan se Achchha'?
 - (a) Ghulam Ali Khan
 - (b) None of these
 - (c) Rabindranath Tagore
 - (d) Muhammad Iqbal
- 2. Havana is capital of which country?
 - (a) Ghana
- (b) Finland
- (c) Cuba
- (d) Cyprus
- 3. Saina Nehwal is associated with which game?
 - (a) Badminton
- (b) Chess
- (c) Tennis
- (d) Hockey

Reasoning

- Though only 1-2 questions are be asked from this section but candidate must be required of proper knowledge and practice of basic reasoning chapters.
- Questions asked from this section may be from various topics viz., Classification, Series, Analogy, Coding-

decoding, Sitting Arrangement Blood Relation etc.

Sample Questions

- 4. Select the one which will complete the series B D G K? V
 - (a) P

- (b) M
- (c) N
- (d) Q
- Complete the series P5QR, P4QS, P3QT, P1QV
 - (a) PQ3U
- (b) P2QU
- (c) PQV2
- (d) PQW
- 6. Choose the missing alphabet which is shown by (?) out of the given alternatives: Y, B, T, G, O,?
 - (a) M
- (b) L
- (c) K
- (d) N

Physics

- This section is most important from examination point of view as 15 questions are asked from this section.
 - Questions asked from this section generally covers entire syllabus.
 - As type of question is concerned, questions are asked either directly from theory, formulae or numericals.
 - Sometimes 2-3 questions of applied type also has been asked.
 - Mostly questions have been asked from various topics viz; Mass, Weight, Volume, Motion, Laws of Motion, Archimede's Principal, Force, Work, Power and Energy, Heat, Waves, Ohm's Law, Magnet and Current Electricity etc.

Sample Questions

- 7. The relation between initial velocity u, final velocity v and acceleration a and s being distance is:
 - (a) v = u + as
- (b) $v^2 u^2 = 2as$
- (c) $c^2 u^2 = as$ (d) v + u = 2as
- 8. Dyne is a unit of
 - (a) Momentum
- (b) Power
- (c) Work
- (d) Force
- 9. Which of the following formula shows the relation between frequency (v) and wavelength λ of light?
 - (a) $v = c\lambda$
- (b) $\lambda = vc$
- (c) $\lambda = cv$
- (d) $c = v\lambda$

Mathematics

- Like Physics, this section is also very important from examination point of view as it also covers 15 questions.
- Questions asked from this section are easy to moderate, means, out of 15 questions, some questions are easy and some questions are moderate in level.
- However, candidate is required to practice the questions based on entire syllabus but questions based on some chapters like Number System, Basic Arithmetic (Percentage, Profit and Loss, Speed, Time and Distance, Work and Time, Unitary Method etc), Algebra, Mensuration, Geometry, Trigonometry, Calculus, Statistics have been asked on regular basis.

Sample Questions (Official)

- 10. Cost of 1 kg rice is ₹15.5. Find the cost of 4 kg of rice.
 - (a) 62
- (b) 108.25
- (c) 96.45
- (d) 88.5
- 11. Area of a Trapezium is
 - (a) $b \times h$
 - (b) $1/2 (b \times h)$
 - (c) $1/2 (a + b) \times h$

- (d) $1/2 (d_1 \times d_2)$
- 12. A 110 m long train is running at a speed of 60 km/h. How many seconds does it take to cross another 170 m long train standing on parallel track?
 - (a) 18 sec
- (b) 15.6 sec
- (c) 17.2 sec
- (d) 16.8 sec

Chemistry

- 10 questions will be asked from this section.
- Type of question from this section till now has been asked either based on direct chemical formulae, symbol or direct theory.
- Sometimes 2-3 questions also has been asked based on chemical equations. applied questions, and numerical problems.
- Most of the topics of syllabus like Physical and Chemical Changes, Mixture and Compound, Symbols and Formulae, Carbon and its Compound, Atom, Molecular Weight, have been asked in the examination on regular basis.

Sample Questions (Official)

- 13. Carbon when burns, produces carbon dioxide gas which is a/an
 - (a) element
 - (b) compound
 - (c) homogeneous mixture
 - (d) heterogeneous mixture
- 14. The ratio of charge and mass would be greater for
 - (a) proton
 - (b) electron
 - (c) neutron
 - (d) α-particle
- 15. How many elements were discovered at the time of Mendeleev?
 - (a) 43
- (b) 54
- (c) 63
- (d) 76

Indian Army

Agniveer General Duty

Official Online Practice Test

1.	Who was the tenth and	the last Guru of the	10.		ne headquari	ters of the I	nternational	
	Sikhs? (a) Guru Hargobind Dev (c) Guru Arjan Dev	(b) Guru Gobind Singh (d) Guru Nanak Dev		Court of Ju (a) Rome (b) Paris				
2.	Who wrote the Arthash (a) Chanakya	nastra? (b) Banabhatta		(c) The Hagi (d) Washingt	ue (Netherland ton	ds)		
	(c) Aryabhatta	(d) None of these	11.	The Jallian	wala Bagh is	located in		
3.	The famous book 'Geer (a) Kalidas	t Govind' was written by (b) Banabhatta		(a) Phagwara(c) Gandhina		(b) Amritsa (d) Ferozep		
	(c) Jayadev	(d) Mirabai	12.	Ahmedabad	d is located o	on the bank	ks of which	
4.	Where is the Headquar (a) London (c) Geneva	ter of United Nations? (b) New York (d) New Delhi		river? (a) Narmada (c) Luni river		(b) Banas ri (d) Sabarma		
5.	The National Aeronaut situated at	` '	13.	share land (a) Telangana	e amongst tl boundary w a	ith Tamil N (b) Andhra	Jadu? Pradesh	
	(c) Kolkata	(d) Delhi		(c) Kerala		(d) Karnata	ka	
6.	The national award gives portsmen/women in Ista. (a) Bharat Award		14.	When did (a) 1939-43 (c) 1934-36	World War 1	II held? (b) 1939-45 (d) 1935-38		
	` '	(d) Arjuna Award	15.	When did	Quit India N	Movement l	begin?	
7.	` '	oreign Minister of India?		(a) 1929	(b) 1942	(c) 1940	(d) 1929	
	(a) Smriti Irani (c) Sushma Swaraj	(b) Arun Jaitley (d) S. Jaishanker	16.	(a) Albert Ein		(b) John Er	,	
8.	Who was the first lady	Sultan of India?		(c) Graham I	Bell	(d) Joseph 1	Priestly	
	(a) Nur Jahan(c) Raziya Sultana	(b) Kohinoor(d) Mumtaz Mahal	17.	(a) Lactobaci	of curd by r	(b) Yeast	·	
9.	was the founder	of Indian National Army.		(c) Moulds (d) None of these				
	(a) Bhagat Singh(b) JL Nehru		18.	3. Which gas is available in abundance in atmosphere?				
	(c) Cap. Gen. Mohan Sing(d) Rash Behari Bose	h		(a) Carbon n(c) Argon	nonoxide	(b) Oxygen(d) Nitroge		

Official Online Practice Test

19.	What is Orion? (a) Constellation (c) Galaxy	(b) Meteor (d) Planet		If $x + y = 4$ and $\frac{1}{x} + \frac{1}{y}$ of $x^3 + y^3$.	= 4, then find the value
20.	is essential in so (a) Carbon dioxide (c) Nitrogen	il for plant growth. (b) Oxygen (d) Hydrogen		(a) 52 (c) 4	(b) 25 (d) 64 ce of work in 4 days, how
21.	Polio is caused by a type (a) bacteria (c) fungus	e of (b) virus (d) None of these			(b) 6
22.	Which type of pollution rain? (a) Soil pollution (c) Water pollution	n is responsible for ac (b) Air pollution (d) Noise pollution	34. '	(c) 12 The average of 3, 6, 9, (a) 20 (c) 22	(d) 10 6 is (b) 6 (d) 8
23.	How many colours are blight? (a) 5 (b) 1	there in a spectrum of (c) 7 (d) 3		A batsman scores 80 ru are thus increases his a average after six inning	verage by 5. What is his
24.	Urea fertiliser is (a) nitrogenous (c) phosphoric	(b) potassium based (d) mixed		(a) 65 (c) 50 What is 25% of 200?	(b) 60 (d) 55
25.	What is required for the photosynthesis? (a) Chlorophyll (b) Carbon dioxide and wa (c) Sunlight (d) All of the above		37.	(a) 55.5 (c) 100 Which among the follodigit number that is di (a) 9944 (c) 9966	(b) 50 (d) 150 owing is the largest four visible by 88? (b) 9988 (d) 6888
26.	In nuclear reactor, heavy (a) moderator (c) coolant	y water is used as (b) atomic smasher (d) fuel	38.		lling his watch for ₹ 450
27.	What is the chemical fo	ormula of salt? (c) NaOH (d) KCl		(c) ₹ 600 The number 20% mor	(d) ₹ 400
28.	is produced by the (a) Electricity (c) Thunder	ne vibration of bodies (b) Light (d) Sound		(a) 96 (c) 90 34.36 – 45.67 + 86.56=	(b) 30 (d) 36 = ? + 37.96
29.	(a) White (b) Black (c) Green (d) None of these			(a) 37.29 (c) 37.49 A number added to its	(b) 36.29 (d) 32.29 two-thirds is equal to 35
30.	Which disease is caused iodine? (a) Goiter		of	Find the number? (a) 21 (c) 24	(b) 22 (d) 23
31.	(c) Berry-Berry Ravi bought 1 shirt for ₹ 900, find his profit po (a) 9 (b) 2.5	(d) Rickets ₹ 800 and sold for		The area of a circle is 1? (a) 7 (c) 6	54 cm ² whose radius is (b) 8 (d) 5

- **43.** The diagonal and one side of a rectangular field are 289 m and 161 m respectively. Find the other side.
 - (a) 220 m
- (b) 180 m
- (c) 230 m
- (d) 240 m
- **44.** A can do a piece of work in 8h while B alone can do in 16 h. In how many hours, both A and B working together can finish the work?
 - (a) $5\frac{1}{2}$ h
- (b) $5\frac{1}{4}$ h
- (c) $5\frac{1}{3}$ h
- (d) $5\frac{2}{3}$ l
- 45. In equilateral triangle, angles are
 - (a) 60,60,60
 - (b) 60, 80, 60
 - (c) 90,30,60
 - (d) 90, 45, 45

- **46.** Find the missing term in the series: 5760, 960, ?, 48, 16, 8
 - (a) 192
- (b) 240
- (c) 120
- (d) 160
- **47.** If TOM means 48 and DILB means 27, then HARRY stands for
 - (a) 50
- (b) 60
- (c) 67
- (d) 70
- **48.** Hat : Head : : Spectacles : ?
 - (a) Textiles
- (b) Eyes
- (c) Mouth
- (d) Hat
- **49.** In certain code word 'DELHI' is written in 'EFMIJ', then word 'BOMBAY' will be?
 - (a) MJXVSU
- (b) AIJMJX
- (c) AMJWUR
- (d) CPNCBZ
- **50.** 10, 16, 21, 25, ...
 - (a) 28
- (b) 31

- (c) 27
- (d) 29

⊗ Answers

1 (b)	2 (a)	3 (c)	4 (b)	5 (b)	6 (d)	7 (d)	8 (c)	9 (d)	10 (c)
11 (b)	12 (d)	13 (a)	14 (b)	15 (b)	16 (d)	17 (a)	18 (d)	19 (a)	20 (c)
21 (b)	22 (b)	23 (c)	24 (a)	25 (d)	26 (a)	27 (b)	28 (d)	29 (b)	30 (a)
31 (d)	32 (a)	33 (a)	34 (b)	35 (d)	36 (b)	37 (a)	38 (a)	39 (a)	40 (a)
41 (a)	42 (a)	43 (d)	44 (c)	45 (a)	46 (a)	47 (d)	48 (b)	49 (d)	50 (a)

Solutions

- 1. (b) Guru Gobind Singh was the tenth Sikh Guru, a spiritual master, warrior, poet and philosopher. When his father, Guru Tegh Bahadur, was executed by the Mughal ruler Aurangzeb, Guru Gobind Singh was formally installed as the leader of the Sikhs at the age of nine, becoming the tenth and final human Sikh Guru. He founded the Sikh warrior community called Khalsa in 1699 and introduced the Five Ks, the five articles of faith that Khalsa Sikhs wear at all times. Guru Gobind Singh is credited with the Dasam Granth whose hymns are a sacred part of Sikh prayers and Khalsa rituals. He is also credited as the one who finalised and enshrined the Guru Granth Sahib as Sikhism's primary scripture and eternal Guru.
- 2. (a) Chanakya (375-283 BCE) was an ancient Indian polymath who was active as a teacher, author, strategist, philosopher, economist, jurist and royal advisor. He is traditionally identified as Kautilya or Vishnugupta, who authored the ancient Indian political treatise, the Arthashastra, a text dated to roughly between the fourth century BCE and the third century CE. He lived in the court of first Mauryan king Chandragupta Maurya.
- 3. (c) 'The Gita Govinda' is a work composed by the 12th-century Hindu poet, Jayadeva. It describes the relationship between Krishna, Radha and gopis of Vrindavan. The Gita Govinda is organised into twelve chapters. Each chapter is further sub-divided into one or more divisions called Prabandhas, totalling twenty-four in all.
- 4. (b) The United Nations (UN) is an intergovernmental organisation whose stated purposes are to maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and be a centre for harmonising the actions of nations. It is the world's largest and most familiar international organisation. The United Nations is headquartered in Midtown Manhattan, New York City, United States.
- 5. (b) National Aeronautical Research Laboratory was setup in Delhi in 1959. In March 1960, it set up an office in the palace of Maharaja of Mysore, Bengaluru. It is India's first and largest aerospace research firm established by the CSIR. It concentrates on research in advanced topics in aerospace and related disciplines.
- 6. (d) 'Arjuna Awards' are given to distinguished sportspersons for Outstanding Performance in Sports and Games. It is the second-highest sporting honour of India, the highest being the Major Dhyan Chand

- Khel Ratna Award. The award is named after Arjuna, one of the characters of the Sanskrit epic 'Mahabharata' of ancient India. It is presented by Sports Authority of India.
- 7. (d) Subrahmanyam Jaishankar is an Indian diplomat and politician who is serving as the present Minister of External Affairs of the Government of India since 30th May, 2019. He is a member of the Bharatiya Janata Party and a Member of Parliament in the Rajya Sabha.
- 8. (c) Razia Sultana, was the first lady ruler of the Delhi Sultanate. She was the first female Muslim ruler of the subcontinent, and the only female Muslim ruler of Delhi. She belonged to the Slave dynasty and was the daughter of Iltutmish.
- 9. (d) The Indian National Army was first formed in 1942 under Rash Behari Bose by Indian Prisoners of War (PoW) of the British-Indian Army captured by Japan in the Malayan campaign and at Singapore.

 This first INA, which had been handed over to Rash Behari Bose, collapsed and was disbanded in December that year after differences between the INA leadership and the Japanese military over its role in Japan's war in Asia. Rash Behari Bose handed over INA to Subhash Chandra Bose.
- 10. (c) The International Court of Justice is one of the six principal organs of the United Nations. It settles disputes between states in accordance with international law and gives advisory opinions on international legal issues.
 - It is headquartered in The Hague (Netherlands).
- 11. (b) The Jallianwala Bagh massacre took place on 13th April, 1919 on the day of Baisakhi. A large peaceful crowd had gathered at the Jallianwala Bagh in Amritsar, Punjab, to protest against the Rowlatt Act and arrest of pro-independence activists Saifuddin Kitchlew and Satyapal.
 - The crowd gathered was attacked on the order of General Dyer that led to a huge mass killing.
- 12. (d) Ahmedabad is located in Gujarat on the banks of Sabarmati river. It is also known as the Manchester of India and is the largest city in the state of Gujarat. Ahmedabad is famous for its textile industry, and is known as the textile hub of India.
- 13. (a) Telangana does not share the border with the state of Tamil Nadu. Tamil Nadu is a state in southern India and is tenth largest Indian state by area and the sixth largest by population, Tamil Nadu is the home of the Tamil people, whose Tamil language is one of the longest surviving classical languages in the world.

- 14. (b) World War II or the Second World War was a global conflict that lasted from 1939 to 1945. The vast majority of the world's countries, including all of the great powers, fought as part of two opposing military alliances: the Allies and the Axis. The war was by far the deadliest conflict in human history which resulted in 70 to 85 million fatalities, mostly among civilians.
- 15. (b) The Quit India Movement, also known as the August Kranti Movement, was launched at the Bombay session of the All India Congress Committee by Mahatma Gandhi on 8th August, 1942, during World War II, demanding an end to British rule in India. The Quit India Movement has rightly been described as the most massive anti-imperialist struggle on the eve of Partition and Independence.
- **16.** (d) Oxygen is discovered by Joseph Priestly in 1774. Lavoisier recognised and named Oxygen in 1778. It is a highly reactive non-mental and an oxidizing agent. It's atomic number is 8.
- 17. (a) Formation of curd by milk is done by Lactobacillus. It produce lactic acid and reducing the pH of the milk. These bacteria convert the lactose into lactic acid.
- **18.** (d) Nitrogen gas is available in abundance in atmosphere which makes up about 78% of air. It is a non-metal and the lightest element of group 15 of the Periodic Table.
- 19. (a) Orion is a prominent constellation located on the celestial equator and visible throughout the world. It is the most conspicuous and recognisable constellation in the night.
- 20. (c) Nitrogen is essential in soil for plant growth. It is a key component of amino acid which from the building blocks of plant proteins and enzymes.
- **21.** (b) Polio is caused by a type of Virus which is also known as Poliomellatis. It infects your throat and intestines. It can also spread to your brain and spine causing paralysis.
- **22.** (b) Acid rain is responsible for air pollution. This reaction begins when sulphur dioxide and nitrogen oxide are released into the air. These oxides are emitted by power plants and large industries.
- **23.** (c) Spectrum of light has seven colours. When beam of light is passed through a glass prism the white light disperse into seven colours of light. The seven colours of spectrum of light are known as VIBGYOR. Violet has highest frequency and Red has lowest frequency.
- 24. (a) Urea fertilizer is nitrogenous because of its high content of 46% of nitrogen. Urea provide the plants with nitrogen to promote green leafy growth and make plant look lush.

- **25.** (d) Photosynthesis process required all of these substances like carbon dioxide, water, sunlight and chlorophyll to create oxygen and energy in the form of
- **26.** (a) In nuclear reactor, heavy water is used as moderator to slow down the neutrons produced during the fission reaction.
- 27. (b) Salt chemical formula is NaCl. It is called sodium chloride ions. Salt is present in vast quantities in seawater. It is a form of a natural crystalline mineral.
- **28.** (d) Sound is produced by the vibration of bodies when it will be propagated through a medium from one point to another the energy produced in form of sound
- 29. (b) Black colour object absorb the most heat because black colour object absorbs all wave length of light and reflected none.
- 30. (a) Goiter disease is caused due to deficiency of lodine. It can lead thyroid gland that is generating too less hormone or too much hormone and it is a lump or swelling at the front of the neck caused by a swollen thvroid.
- 31. (d) Cost price (CP) of the shirt

Seling price (SP) of the shirt

Profit percentage

$$= \frac{\text{Profit}}{\text{CP}} \times 100\%$$
$$= \frac{100}{800} \times 100\%$$
$$= 12.5\%$$

32. (a) Given,
$$x + y = 4$$

$$\Rightarrow (x + y)^2 = 4^2$$

$$\Rightarrow x^2 + y^2 + 2xy = 16$$
Also,
$$\frac{1}{x} + \frac{1}{y} = 4 \Rightarrow \frac{x + y}{xy} = 4$$

$$\Rightarrow \frac{4}{xy} = 4 \Rightarrow xy = \frac{4}{4} = 1 \quad [\because x + y = 4]$$
Now, $x^3 + y^3 = (x + y)$

$$(x^{2} - xy + y^{2})$$

$$= (x + y)$$

$$= (x^{2} - xy + y^{2} + 2xy - 2xy)$$

$$= (x + y)(x^{2} + y^{2} + 2xy - 3xy)$$

$$= (x + y)[(x + y)^{2} - 3xy]$$
[: x + y = 4, xy = 1]

Official Online Practice Test

$$= (4) [(4)^{2} - 3 \times 1]$$

$$= 4 [16 - 3]$$

$$= 4 \times 13$$

$$= 52$$

33. (a) Given,
$$M_1 = 10$$
, $D_1 = 4$,

$$M_2 = ?, D_2 = 5$$

We know that

$$\begin{array}{c} M_1D_1 = M_2D_2 \\ \Rightarrow \qquad \qquad 10 \times 4 = M_2 \times 5 \\ \Rightarrow \qquad \qquad M_2 = \frac{10 \times 4}{5} = 8 \end{array}$$

So, required number of men = $M_2 = 8$

34. (b) Required average

$$= \frac{3+6+9+6}{4} = \frac{24}{4} = 6$$

35. (d) Let the batsman's average score after 5th inning

Total runs after 5th inning = 5xGiven, $\frac{5x + 80}{6} = x + 5$ $\Rightarrow 5x + 80 = 6x + 30$ $\Rightarrow 6x - 5x = 80 - 30$

Bastsman's average after 6th inning = x + 5

x = 50

$$= 50 + 5 = 55$$

36. (b) 25% of 200 =
$$\frac{25}{100} \times 200 = 50$$

37. (a) Largest four digit number = 9999

So, the largest four digit number divisible by

$$88 = 9999 - 55 = 9944$$

38. (a) Given, loss % = 10%,

Selling price (SP) = ₹ 450

Cost price (CP)

$$= \frac{100}{100 - \text{Loss}\%} \times \text{SP}$$

$$= \frac{100}{100 - 10} \times 450$$

$$= \frac{100 \times 450}{90}$$

$$= ₹ 500$$

39. (a) The number 20% more than 80
=
$$(100 + 20)$$
% of 80
= $\frac{120}{100} \times 80 = 96$

41. (a) Let the number be x.

Given,
$$x + \frac{2}{3} \times x = 35$$

$$\Rightarrow \frac{3x + 2x}{3} = 35$$

$$\Rightarrow 5x = 35 \times 3$$

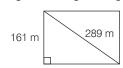
$$\Rightarrow x = \frac{35 \times 3}{5} = 21$$

42. (a) Area of a circle = πr^2 $\Rightarrow 154 = \frac{22}{7} \times r^2$

$$\Rightarrow r^2 = \frac{154 \times 7}{22} = 49$$

$$\Rightarrow r = \sqrt{49} = 7 \text{ cm}$$

43. (d) In a rectangle, each angle is a right angle (90°).



By Pythagoras theorem,

Other side =
$$\sqrt{(289)^2 - (161)^2}$$

= $\sqrt{83521 - 25921}$
= $\sqrt{57600}$
= 240 m

44. (c) A's one hour work = $\frac{1}{8}$

B's one hour work = $\frac{1}{16}$

(A + B)'s one hour work

$$= \frac{1}{8} + \frac{1}{16}$$
$$= \frac{2+1}{16} = \frac{3}{16}$$

So, A and B together can finish the work in

$$\frac{16}{3} = 5\frac{1}{3}$$
 h.

45. (a) In equilateral triangle, all three angles are equal to 60° .