

INDIAN ARMY

AGNIVEER GENERAL DUTY

PHASE I

Online Computer Based Written Exam (CEE)

Maj. RD Ahluwalia

with
**OFFICIAL
ONLINE
PRACTICE
TEST
(SOLVED)**



INDIAN ARMY

AGNIVEER

GENERAL DUTY

Phase I

Online Computer Based Written Exam (CEE)

INDIAN ARMY

AGNIVEER

GENERAL DUTY

Phase I

Online Computer Based Written Exam (CEE)

Maj. RD Ahluwalia



Arihant Publications (India) Ltd.



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.

✚ 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.

✚ **ISBN** 978-93-88127-09-7

✚ **PRICE** ₹ 185.00

PO No : TXT-XX-XXXXXXX-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    

CONTENTS

OFFICIAL ONLINE PRACTICE TEST	1-8
GENERAL KNOWLEDGE	1-76
1. History	3-24
2. Geography	25-42
3. Constitution and Political System in India	43-50
4. General Knowledge	51-67
5. Sports	68-71
6. Awards	72-76
GENERAL SCIENCE	1-92
1. Units and Measurement	3-6
2. Mechanics : Motion and Its Laws	7-11
3. Work, Power and Energy	11-14
4. Gravitation and Properties of Matter	15-18
5. Heat and Temperature	19-21
6. Wave Motion and Sound	22-26
7. Light	26-30
8. Electricity	31-35
9. Magnetism	35-38
10. Matter and Its State	39-41
11. Atoms and Molecules	41-44
12. Periodic Classification of Elements	45-48
13. Chemical Reactions and Equations	48-52
14. Acids, Bases and Salts	52-56
15. Metals and Non-Metals	56-60
16. Carbon and Its Compounds	60-63

17. Environmental Chemistry	64-65
18. Introduction to Biology	66-69
19. Cell and Cell Organelles	69-74
20. Human Body and System	74-85
21. Nutrition, Health and Diseases	86-92

MATHEMATICS **1-92**

1. Number System	3-5
2. Square and Cube Root	5-8
3. Indices and Surds	9-12
4. Fractions	13-16
5. HCF and LCM	17-20
6. Simplification	21-23
7. Average	24-27
8. Percentage	27-30
9. Profit, Loss and Discount	30-34
10. Simple and Compound Interest	35-39
11. Ratio and Proportion	39-41
12. Partnership	42-44
13. Time, Work and Unitary Method	44-48
14. Time, Speed and Distance	48-52
15. Problems Based on Ages	53-55
16. Mensuration	56-65
17. Algebra	66-74
18. Geometry	75-84
19. Measurement	85-88
20. Trigonometry	89-92

LOGICAL REASONING **1-18**

PRACTICE SETS (1-4) **1-12**

Indian Army

Agniveer General Duty

Official Online Practice Test

1. Who was the tenth and the last Guru of the Sikhs?
(a) Guru Hargobind Dev (b) Guru Gobind Singh
(c) Guru Arjan Dev (d) Guru Nanak Dev
2. Who wrote the Arthashastra?
(a) Chanakya (b) Banabhatta
(c) Aryabhatta (d) None of these
3. The famous book 'Geet Govind' was written by
(a) Kalidas (b) Banabhatta
(c) Jayadev (d) Mirabai
4. Where is the Headquarter of United Nations?
(a) London (b) New York
(c) Geneva (d) New Delhi
5. The National Aeronautical Laboratory is situated at
(a) Hyderabad (b) Bengaluru
(c) Kolkata (d) Delhi
6. The national award given to the distinguished sportsmen/women in India is known as
(a) Bharat Award (b) Nehru Award
(c) Urvashi Award (d) Arjuna Award
7. Who is presently the Foreign Minister of India?
(a) Smriti Irani (b) Arun Jaitley
(c) Sushma Swaraj (d) S. Jaishanker
8. Who was the first lady Sultan of India?
(a) Nur Jahan (b) Kohinoor
(c) Raziya Sultana (d) Mumtaz Mahal
9. was the founder of Indian National Army.
(a) Bhagat Singh
(b) J.L. Nehru
(c) Cap. Gen. Mohan Singh
(d) Rash Behari Bose
10. Where is the headquarters of the International Court of Justice?
(a) Rome
(b) Paris
(c) The Hague (Netherlands)
(d) Washington
11. The Jallianwala Bagh is located in
(a) Phagwara (b) Amritsar
(c) Gandhinagar (d) Ferozepur
12. Ahmedabad is located on the banks of which river?
(a) Narmada river (b) Banas river
(c) Luni river (d) Sabarmati river
13. Which state amongst the following does not share land boundary with Tamil Nadu?
(a) Telangana (b) Andhra Pradesh
(c) Kerala (d) Karnataka
14. When did World War II held?
(a) 1939-43 (b) 1939-45
(c) 1934-36 (d) 1935-38
15. When did Quit India Movement begin?
(a) 1929 (b) 1942 (c) 1940 (d) 1929
16. Who discovered oxygen?
(a) Albert Einstein (b) John Emburey
(c) Graham Bell (d) Joseph Priestly
17. Formation of curd by milk is done by
(a) Lactobacillus (b) Yeast
(c) Moulds (d) None of these
18. Which gas is available in abundance in atmosphere?
(a) Carbon monoxide (b) Oxygen
(c) Argon (d) Nitrogen

19. What is Orion?
 (a) Constellation (b) Meteor
 (c) Galaxy (d) Planet
20. is essential in soil for plant growth.
 (a) Carbon dioxide (b) Oxygen
 (c) Nitrogen (d) Hydrogen
21. Polio is caused by a type of
 (a) bacteria (b) virus
 (c) fungus (d) None of these
22. Which type of pollution is responsible for acid rain?
 (a) Soil pollution (b) Air pollution
 (c) Water pollution (d) Noise pollution
23. How many colours are there in a spectrum of light?
 (a) 5 (b) 1 (c) 7 (d) 3
24. Urea fertiliser is
 (a) nitrogenous (b) potassium based
 (c) phosphoric (d) mixed
25. What is required for the process of photosynthesis?
 (a) Chlorophyll
 (b) Carbon dioxide and water
 (c) Sunlight
 (d) All of the above
26. In nuclear reactor, heavy water is used as
 (a) moderator (b) atomic smasher
 (c) coolant (d) fuel
27. What is the chemical formula of salt?
 (a) ZnC (b) NaCl (c) NaOH (d) KCl
28. is produced by the vibration of bodies.
 (a) Electricity (b) Light
 (c) Thunder (d) Sound
29. Which colour objects absorb the most heat?
 (a) White (b) Black
 (c) Green (d) None of these
30. Which disease is caused due to the deficiency of iodine?
 (a) Goiter (b) Scurvy
 (c) Berry-Berry (d) Rickets
31. Ravi bought 1 shirt for ₹ 800 and sold for ₹ 900, find his profit percentage.
 (a) 9 (b) 2.5 (c) 8 (d) 12.5
32. If $x + y = 4$ and $\frac{1}{x} + \frac{1}{y} = 4$, then find the value of $x^3 + y^3$.
 (a) 52 (b) 25
 (c) 4 (d) 64
33. If 10 men can do a piece of work in 4 days, how many men will be required to get the same work done in 5 days?
 (a) 8 (b) 6
 (c) 12 (d) 10
34. The average of 3, 6, 9, 6 is
 (a) 20 (b) 6
 (c) 22 (d) 8
35. A batsman scores 80 runs in his sixth innings are thus increases his average by 5. What is his average after six innings?
 (a) 65 (b) 60
 (c) 50 (d) 55
36. What is 25% of 200?
 (a) 55.5 (b) 50
 (c) 100 (d) 150
37. Which among the following is the largest four digit number that is divisible by 88?
 (a) 9944 (b) 9988
 (c) 9966 (d) 6888
38. A man loses 10% by selling his watch for ₹ 450. Find the cost price of the watch.
 (a) ₹ 500 (b) ₹ 140
 (c) ₹ 600 (d) ₹ 400
39. The number 20% more than 80 is
 (a) 96 (b) 30
 (c) 90 (d) 36
40. $34.36 - 45.67 + 86.56 = ? + 37.96$
 (a) 37.29 (b) 36.29
 (c) 37.49 (d) 32.29
41. A number added to its two-thirds is equal to 35. Find the number?
 (a) 21 (b) 22
 (c) 24 (d) 23
42. The area of a circle is 154 cm^2 whose radius is ?
 (a) 7 (b) 8
 (c) 6 (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) $5\frac{2}{3}$ h
- 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-metal and an oxidizing agent. Its atomic number is 8.
17. (a) Formation of curd by milk is done by Lactobacillus. It produces lactic acid and reduces 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 forms the building blocks of plant proteins and enzymes.
21. (b) Polio is caused by a type of Virus which is also known as Poliomyelitis. 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 a beam of light is passed through a glass prism the white light disperses 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 provides the plants with nitrogen to promote green leafy growth and make plants 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 sugar.
26. (a) In nuclear reactor, heavy water is used as a 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 waves.
29. (b) Black colour object absorbs the most heat because black colour object absorbs all wave length of light and reflects none.
30. (a) Goiter disease is caused due to deficiency of Iodine. 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 thyroid.
31. (d) Cost price (CP) of the shirt
 $= ₹ 800$
 Selling price (SP) of the shirt
 $= ₹ 900$
 Profit = SP – CP = ₹ (900 – 800)
 $= ₹ 100$
 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, $x^3 + y^3 = (x + y)(x^2 - xy + y^2)$
 $= (x + y)(x^2 - xy + y^2)$
 $= (x^2 - xy + y^2 + 2xy - 2xy)$
 $= (x + y)(x^2 + y^2 + 2xy - 3xy)$
 $= (x + y)[(x + y)^2 - 3xy]$
 $[\because x + y = 4, xy = 1]$

$$\begin{aligned}
 &= (4) [(4)^2 - 3 \times 1] \\
 &= 4 [16 - 3] \\
 &= 4 \times 13 \\
 &= 52
 \end{aligned}$$

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

$$M_2 = ?, D_2 = 5$$

We know that

$$\begin{aligned}
 M_1 D_1 &= M_2 D_2 \\
 \Rightarrow 10 \times 4 &= M_2 \times 5 \\
 \Rightarrow M_2 &= \frac{10 \times 4}{5} = 8
 \end{aligned}$$

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 = x

Total runs after 5th inning = $5x$

$$\text{Given, } \frac{5x + 80}{6} = x + 5$$

$$\Rightarrow 5x + 80 = 6x + 30$$

$$\Rightarrow 6x - 5x = 80 - 30$$

$$\Rightarrow x = 50$$

Batsman's average after 6th inning = $x + 5$
 $= 50 + 5 = 55$

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

37. (a) Largest four digit number = 9999

Now, 88) 9999 (113

$$\begin{array}{r}
 - 88 \\
 119 \\
 - 88 \\
 319 \\
 - 264 \\
 \hline
 55
 \end{array}$$

So, the largest four digit number divisible by

$$88 = 9999 - 55 = 9944$$

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

Selling price (SP) = ₹ 450

Cost price (CP)

$$\begin{aligned}
 &= \frac{100}{100 - \text{Loss}\%} \times \text{SP} \\
 &= \frac{100}{100 - 10} \times 450 \\
 &= \frac{100 \times 450}{90} \\
 &= ₹ 500
 \end{aligned}$$

39. (a) The number 20% more than 80

$$\begin{aligned}
 &= (100 + 20)\% \text{ of } 80 \\
 &= \frac{120}{100} \times 80 = 96
 \end{aligned}$$

40. (a) $34.36 - 45.67 + 86.56 = ?$

$$\begin{aligned}
 &+ 37.96 \\
 \Rightarrow 120.92 - 45.67 - 37.96 &= ? \\
 \Rightarrow ? &= 75.25 - 37.96 \\
 &= 37.29
 \end{aligned}$$

41. (a) Let the number be x .

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

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

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

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

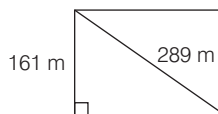
42. (a) Area of a circle = πr^2

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

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

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

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



By Pythagoras theorem,

$$\begin{aligned}
 \text{Other side} &= \sqrt{(289)^2 - (161)^2} \\
 &= \sqrt{83521 - 25921} \\
 &= \sqrt{57600} \\
 &= 240 \text{ m}
 \end{aligned}$$

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

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

(A + B)'s one hour work

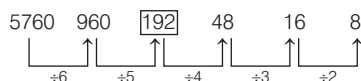
$$\begin{aligned}
 &= \frac{1}{8} + \frac{1}{16} \\
 &= \frac{2 + 1}{16} = \frac{3}{16}
 \end{aligned}$$

So, A and B together can finish the work in

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

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

46. (a) The pattern of the series is as follows



47. (d) Here, each word is coded as the sum of position of each letter of the word as in English alphabets.

$T_{20} O_{15} M_{13}$

$$\Rightarrow 20 + 15 + 13 = 48$$

$D_4 I_9 L_{12} B_2$

$$\Rightarrow 4 + 9 + 12 + 2 = 27$$

Similarly,

$H_8 A_1 R_{18} R_{18} Y_{25}$

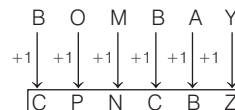
$$\Rightarrow 8 + 1 + 18 + 18 + 25 = 70$$

48. (b) A hat is used to cover head. Similarly, Spectacles are use to cover eyes.

49. (d) Here,



Similarly,



50. (a) The pattern of the series is as follows,

