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		Question Booklet No.	160088
		R/C/P/EXAM	or avgantii a soort
	Invigilator's signature	2021	
	GENERAL F	KNOWLEDGE AND MATHEMA	TICS
Time : 2 Hours		Maximum Marks : 100	
RC	LL NO.		
	INS	STRUCTIONS FOR CANDIDATES	
1.	Immediately after the com Booklet does <b>NOT</b> have any get it replaced by a Comple	umencement of the Examination, candidate sho y unprinted, torn or missing pages/Sl. No. etc. If ete Question Booklet.	ould check that this any defect is found,
2.	This Test Booklet consists of two parts— <b>General Knowledge</b> (Objective) contains 50 multiple choice questions carrying 1 mark each and <b>Mathematics</b> (Subjective) is of 50 marks.		
3.	In <b>General Knowledge</b> (Objective) each question contains four responses. Choose only one correct answer for each question and darken the bubble on the OMR RESPONSE SHEET. In <b>Mathematics</b> (Subjective), answer <b>all</b> questions as directed in full sentences. The marks in the right-hand margin indicate full marks for the questions.		
4.	DO NOT write your Name or anything else except Roll No. and the actual answer to the questions, anywhere on the OMR RESPONSE SHEET.		
5.	DO NOT handle your OMR RESPONSE SHEET in such a manner as to mutilate, fold, etc.		nutilate, fold, etc.
5.	Entry into the examination venue shall be closed <b>10 minutes</b> before the scheduled commencement of the Examination, i.e. 8:50 AM for the Forenoon session and 12:50 PM for the Afternoon session.		
7.	No candidate shall have in his / her possession, inside the Examination Hall, any book notebook or loose paper, calculator, mobile phone etc., except his / her Admit Card an other things permitted by the Commission.		
8.	Immediately after the final bell indicating the closure of the Examination, stop bubbling and writing. Be seated till the OMR RESPONSE SHEET and Answer Sheet is collected by the Invigilator. Thereafter you may leave the Examination Hall.		
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## General Knowledge

## (Objective)

- 1. In which year the Dept. of Atomic energy was set up in India?
  - (A) 1950
  - (B) 1954
  - (C) 1958
  - (D) 1962
- 2. What is/are the correct answer(s) regarding Vijayanagar Empire?
  - (A) It was founded in 1336
  - (B) It was founded by Harihara
  - (C) It was founded by Bukka
  - (D) All of the above
- **3.** Which king permanently ended the Vaghela dynasty and made the annexation of Gujarat to the Delhi Sultanate?
  - (A) Alauddin Khilji
  - (B) Mahmud Begada
  - (C) Muhammad Shah
  - (D) Zafar Khan
- 4. Who was the chief mentor, adviser, teacher and the most trusted ally of Akbar?
  - (A) Sabira Mahmood
  - (B) Timur Shah
  - (C) Jazaya Farooq
  - (D) None of the above
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- 5. Which act established the uniform judicial administration and civil authority throughout British India?
  - (A) The code 1781
  - (B) The code 1793
  - (C) The Charter Act 1883
  - (D) The Police Act 1861
- **6.** PUNCH is a mission scheduled to be launched by which of the following agencies during 2022-23?
  - (A) ISRO
  - (B) NASA
  - (C) CNSA
  - (D) SpaceIL
- **7.** Prithvi Pankaj Shaw has been suspended for doping charges and he is associated with
  - (A) Cricket
  - (B) Hockey
  - (C) Football
  - (D) Boxing
- 8. Nuakhai Juhar is the ancient harvest festival of which State of India?
  - (A) West Bengal
  - (B) Jharkhand
  - (C) Chhattisgarh
  - (D) Odisha

- **9.** The Operation Peace Spring was undertaken by which of the following defense forces?
  - (A) Taiwanese forces
  - (B) Nigerian forces
  - (C) Turkish forces
  - (D) Ukrainian forces
- **10.** Who of the following administers the Oath of Office to the Chief Information Commissioner (CIC) of India?
  - (A) The Chief Justice of India
  - (B) The Prime Minister of India
  - (C) The Vice President of India
  - (D) The President of India
- 11. In order to end more than 18-year old war in Afghanistan, which of the following agreements/declarations was signed between USA and Taliban?
  - (A) Kabul Declaration, 2019
  - (B) Leningard Agreement, 2020
  - (C) Doha Agreement, 2020
  - (D) Kuala Lumpur Declaration, 2020
- 12. The SpaceX Falcon 9 rocket launched during May 2020 by NASA carried how many astronauts?
  - (A) One
  - (B) Two
  - (C) Three
  - (D) None of the above
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- 13. The Richard Dawkins Award, 2020 has been awarded to
  - (A) Javed Akhtar
  - (B) Gulzar
  - (C) Chetan Bhagat
  - (D) Sapna Pandey
- 14. Indian Railways renamed RPF as
  - (A) Indian Railway Protection Force Service
  - (B) Railway Protection Force Service
  - (C) Indian Rail Protection Service
  - (D) Indian Railway Protection Force
- **15.** The Project NETRA was commenced by which of the following?
  - (A) Ministry of Health
  - (B) Eye Bank Association of India
  - (C) ISRO
  - (D) Indian Navy
- 16. The Chachai (Water) Falls is situated in which State of India?
  - (A) Nagaland
  - (B) Gujarat
  - (C) Himachal Pradesh
  - (D) Madhya Pradesh
- **17.** Indian Council of Forestry Research and Education is situated in which place?
  - (A) Amaravati
  - (B) Shimla
  - (C) Bhopal

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(D) None of the above

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18. Which of the following Commissions rejected the idea of Linguistic States in India?

- (A) Dhar Commission
- (B) JVP Commission
- (C) Both (A) and (B)
- (D) None of the above

**19.** On the basis of ideals, the Directive Principles under DPSP are classified into how many categories?

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

**20.** A high court has jurisdiction over which of the following matters?

- (A) Appellate jurisdiction
- (B) Disputes in election of MPs and MLAs
- (C) Matters violating fundamental rights
- (D) All of the above

**21.** Which of the following is **not** related to the electoral reforms in India?

- (A) NOTA
- (B) VVPAT
- (C) EVM
- (D) None of the above

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- **22.** Which of the following schedules enshrines the allocation of seats in Rajya Sabha to the States and Union territories?
  - (A) 3<sup>rd</sup> schedule
  - (B) 4<sup>th</sup> schedule
  - (C) 5<sup>th</sup> schedule
  - (D) 6<sup>th</sup> schedule
- **23.** Which scheme has been adopted by Jansankhya Sthirata Kosh (JSK) to control population in India?
  - (A) Prerana Scheme
  - (B) Santushti Scheme
  - (C) Conducting sterilization operations

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- (D) All of the above
- 24. Which of the following organizations has designed and developed the Seednet India portal, where all seed related informations have been hosted on the web?
  - (A) NAFED
  - (B) ISRO
  - (C) NIC
  - (D) NSC
- **25.** Make in India Mittelstand (MIIM) programme provides which of the following service(s)?
  - (A) Supporting German SMEs
  - (B) Financial services to German Mittelstand Cos.
  - (C) Hand holding and Liaising service
  - (D) All of the above

- **26.** Burnpur Steel Plant is located in which State of India?
  - (A) West Bengal
  - (B) Haryana
  - (C) Jharkhand
  - (D) Andhra Pradesh
- **27.** Bharatmala project is centrally sponsored and funded by
  - (A) Border Roads Organisation
  - (B) Ministry of Road Transport and Highways
  - (C) Dept. of Tourism
  - (D) Ministry of Defense

28. What is correct regarding Repo rate?

- (A) The rate at which RBI borrows money from commercial banks
- (B) The rate at which Central Government borrows from RBI
- (C) The rate at which RBI lends money to commercial banks
- (D) The rate at which State Government borrows from Central Government
- **29.** *Himayat*, a placement linked skill training programme, for unemployed youth ( under DDU-GKY ) was launched in which State?
  - (A) Ladakh
  - (B) Telangana
  - (C) Punjab
  - (D) Jammu and Kashmir
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- **30.** The kneecap of human body is known as
  - (A) femur
  - (B) patella
  - (C) scapula
  - (D) biceps
- **31.** The Zaniskari is a breed of small mountain horse popularly found in
  - (A) Ladakh
  - (B) Kankrej
  - (C) Hallikar
  - (D) Ongole
- **32.** In-vitro fertilisation (IVF) is a process of fertilisation where
  - (A) an egg is combined with sperm outside the body
  - (B) it involves monitoring and stimulating a woman's ovulatory process
  - (C) it is removing an ovum or ova from the woman's ovaries and letting sperm fertilise them in a liquid in a laboratory
  - (D) All of the above
- **33.** The saponification is used in which of the following?
  - (A) The process of making rocket propellants
  - (B) The process of deep sea research
  - (C) The process of soap making
  - (D) The process of covid recovery

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- **34.** Why is spring made of steel and not of copper?
  - (A) The elasticity of steel is greater
  - (B) Copper is expensive
  - (C) The longevity of copper is more
  - (D) Steel is plentily available
- **35.** Zero client, also known as ultrathin client means
  - (A) a client who has indebted huge bank loan
  - (B) a server-based computing model
  - (C) a person who has fled the country after raid by Enforcement Dept.
  - (D) a foreigner who has been detained due to duplicate passport
- **36.** North Eastern Region Farm Machinery Training and Testing Institute is located in which place?
  - (A) Barapani (Shillong)
  - (B) Tezpur (Assam)
  - (C) Biswanath Chariali (Assam)
  - (D) Agartala (Tripura)
- **37.** Which is/are the main function(s) of Foreign Investment Promotion Board (FIPB) in India?
  - (A) To review policy regime relating to FDI
  - (B) To undertake invest promotion activities
  - (C) Inviting selected international companies
  - (D) All of the above

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- **38.** What is meant by Bancassurance?
  - (A) Selling of insurance products through the bank's client base
  - (B) Assurance by banks for providing MSME loans under DDU Swablambi Yojana
  - (C) Credit assurance for Atal tinkering labs
  - (D) No action assurance by banks to customers, if the default loan is paid by 31<sup>st</sup> March, 2021
- **39.** The United Nations has called for action by all countries (developed and developing) in a global partnership for the 2030 agenda for Sustainable Development Goals. How many SDGs have been identified in this regard by the UN?
  - (A) Fifteen
  - (B) Seventeen
  - (C) Twenty
  - (D) Twenty one
- **40.** Which of the following towns is famous for diamond mine?
  - (A) Khetri
  - (B) Gomia
  - (C) Panna
  - (D) Hampi
- **41.** Eugenics is the study of which of the following?
  - (A) Aim to alternate fuel quality of cryogenic rocket engine
  - (B) Aim to improve the cancer treatment with radiation
  - (C) Aim to improve the France made fighter plane engine
  - (D) Aim to improve the genetic quality of human population

- **42.** Which of the following explains about a continental shelf?
  - (A) It is a food tray served in Thailand for Royal family
  - (B) It is a narrow portion of a continent that is submerged under an area of relatively shallow water
  - (C) It is a map projection named after a European geographer in the sea
  - (D) It is a shelf 25 ft. high in the Coromandal coast in India
- **43.** The term *Scrum* is associated with which of the following games?
  - (A) Rugby football
  - (B) Wrestling
  - (C) Horse racing
  - (D) Croquet
- **44.** Which of the following American Presidents was assassinated while in office?
  - (A) Zachary Taylor
  - (B) William H. Harrison
  - (C) James A. Garfield
  - (D) None of them
- **45.** Salk Vaccine is administered for which of the following diseases?
  - (A) Dengue
  - (B) Chickengunya
  - (C) Chickenpox
  - (D) None of the above

- **46.** The Mahaprayan Ghat is famous for cremation of which of the following persons?
  - (A) Dr. Shankar Dayal Sharma
  - (B) Dr. Rajendra Prasad
  - (C) I. K. Gujral
  - (D) K. R. Narayan
- **47.** Who is the author of *Nine Days Wonder*?
  - (A) John Masefield
  - (B) Larry Collins
  - (C) H. B. Stowe
  - (D) Joy Adamson
- **48.** The biggest cattle fair in Asia is held in which State of India during the Kartik Purnima?
  - (A) Haryana
  - (B) Punjab
  - (C) Bihar
  - (D) Uttar Pradesh
- **49.** Which of the following is/are the famous book(s) in Sanskrit?
  - (A) Gita Govinda
  - (B) Dharmashastra
  - (C) Manusmriti
  - (D) All of the above
- **50.** Which is the first country to give voting rights to women?
  - (A) USA
  - (B) New Zealand
  - (C) Sweden
  - (D) Australia

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## **Mathematics**

## (Subjective)

Direction : Question numbers 1 to 10 carry 2 marks each.

- 1. Write four consecutive integers less than -40.
- 2. Anjali takes  $2\frac{1}{5}$  minutes to walk across the school ground. Rahul takes  $\frac{9}{4}$  minutes to do the same. Who takes less time and by what fraction?
- **3.** Knowing that 2.077 m<sup>3</sup> air weighs 2.7 kg, calculate how much 1 m<sup>3</sup> of air weighs.
- **4.** From a well filled with water, 184.5 liters are removed followed by 128.75 liters and finally 84.5 liters. After these withdrawals, there are 160 liters in the well. How much water did the well originally have?
- 5. Pinki runs around a square field of side 75 m, Bunty runs around a rectangular field with length 160 m and breadth 105 m. Who covers more distance and by how much?
- 6. The scores in mathematics test (out of 25) for 15 students are as follows :

19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20

Find the mean, mode and median of this data. Are they same?

- 7. A coin is flipped to decide which team starts the game. What is the probability that your team will start?
- 8. Smita's mother is 34 years old. Two years from now, mother's age will be 4 times Smita's present age. What is Smita's present age?

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- **9.** The difference in the measures of two complementary angles is 12°. Find the measures of the angles.
- 10. The diagonals of a rhombus measure 16 cm and 30 cm. Find its perimeter.

Direction : Question numbers 11 to 13 carry 4 marks each.

- 11. Find four rational numbers between  $\frac{-3}{2}$  and  $\frac{5}{3}$ .
- 12. Half of a herd of deer are grazing in the field and three-fourths of the remaining are playing nearby. The rest 9 are drinking water from the pond. Find the number of deers in the herd.
- 13. Is 68600 a perfect cube? If not, find the smallest number by which 68600 must be multiplied to get a perfect cube.

Direction : Question numbers 14 to 16 carry 6 marks each.

14. AB is a line-segment. P and Q are points on opposite sides of AB such that each of them is equidistant from the points A and B. Show that the line PQ is the perpendicular bisector of AB.



- 15. Show that the diagonals of a rhombus are perpendicular to each other.
- 16. Curved surface area of a cone is  $308 \text{ cm}^2$  and its slant height is 14 cm. Find the (a) radius of the base and (b) total surface area of the cone.

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