

Booklet Type

A

Booklet No.

250629

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA, VADODARA

Ph. D. ENTRANCE TEST (PET) 2025

Signature of Invigilator

Roll.  
No.

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Paper - I

Maximum Marks: 50

No. Of Printed Pages: 8

**Instruction for the Candidate:**

1. This paper consists of **FIFTY (50)** multiple choice type questions. Each Question carries **ONE (1)** mark.
2. There is no Negative Marking for Wrong Answer.
3. A separate OMR Answer Sheet has been provided to answer questions. Your answers will be evaluated based on your response in the OMR Sheet only. No credit will be given for any answering made in question booklet.
4. Defective question booklet or OMR if noticed may immediately replace by the concerned invigilator.
5. Write roll number, subject code, booklet type, category and other information correctly in the OMR Sheet else your OMR Sheet will not be evaluated by machine.
6. Select most appropriate answer to the question and darken appropriate oval on the OMR answer sheet, with black / blue ball pen only. **DO NOT USE PENCIL** for darkening. In case of over writing on any answer, the same will be treated as invalid. Each question has exactly one correct answer and has four alternative responses (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.  
**Example:** (A) (B) (C) (D) where (B) is correct response.
7. Rough Work is to be done in the end of this booklet.
8. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
9. Calculators, Log tables any other calculating devices, mobiles, slide rule, text manuals etc are **NOT** allowed in the examination hall. If any of above is seized from the candidates during examination time; he/ she will be immediately debarred from the examination and corresponding disciplinary action will be initiated by the Center Supervisor as deemed fit.
10. **DO NOT FOLD** or **TEAR** OMR Answer sheet as machine will not be able to recognize torn or folded OMR Answer sheet.
11. **You have to return the OMR Answer Sheet to the invigilator at the end of the examination compulsorily** and must not carry it with you outside the Examination Hall. You are however, allowed to carry original question booklet on conclusion of examination.

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## Paper – I

**Note:** This paper consists of **FIFTY (50)** multiple choice type questions. Each Question carries **ONE (1)** mark.

- 01) A teacher notices that students are not participating in classroom discussions. What should be the logical first step?
- Give rewards to motivate participation
  - Ignore and continue with lectures
  - Identify reasons for lack of participation and modify teaching approach
  - Increase classroom rules and punishments
- 02) A professor wants to encourage original thinking in students. Which method is logically the best to achieve this?
- Conducting multiple-choice tests
  - Encouraging students to summarize textbook chapters
  - Assigning research projects and mentoring
  - Providing notes for memorization
- 03) If a student consistently scores poorly in assessments but actively participates in class- room activities, what is the most logical inference?
- The student is not intelligent
  - The assessments may not fully capture the student's understanding
  - The student must be cheating
  - Class participation has no relation to assessment
- 04) A teacher receives anonymous feedback suggesting their lectures are too fast and boring. What is the most logical action?
- Disregard the feedback since it's anonymous
  - Put conscious effort to create interest while teaching
  - Increase the speed to complete the syllabus
  - Stop giving lectures and shift to assignments only
- 05) A student complains about biased grading. What is the logical response of the teacher?
- Review the grading with transparency
  - Dismiss the complaint immediately
  - Justify the grades without review
  - Give the student higher marks to avoid conflict
- 06) Which of the following is not a characteristic of research?
- Empirical
  - Logical
  - Passive
  - Systematic
- 07) Positivist research is based on:
- Subjective Experience
  - Observations and Facts
  - Philosophical Introspection
  - Mythology
- 08) Which research method is best suited for studying past events?
- Descriptive
  - Experimental
  - Historical
  - Action Research
- 09) In which step of the research process, the hypotheses developed?
- Data Collection
  - Data Interpretation
  - Problem formulation
  - Data analysis
- 10) Which of the following is quantitative research?
- Ethnography
  - Grounded Theory
  - Survey Research
  - Phenomenology

Read the following paragraph carefully and answer the following **FIVE** questions :

The pursuit of knowledge in research is not merely an accumulation of data, but an ongoing process of inquiry, reflection, and synthesis. In the contemporary academic world, interdisciplinary approaches are becoming increasingly vital. A scholar in environmental science, for instance, must understand not only the scientific dimensions of climate change but also its social, economic, and political implications. Consequently, researchers are expected to communicate across disciplines, often translating complex ideas for diverse audiences. This demand places a premium on academic writing skills, particularly the ability to write with clarity, coherence, and critical insight. Moreover, ethical considerations in research—ranging from data integrity to authorship practices—are now more visible and strictly monitored. In this context, the modern researcher is not only a specialist in their domain but also a responsible global citizen contributing to a wider intellectual community.

- 11) What does the author imply about the nature of research?
- It is mostly about collecting and storing data.
  - It is a linear process with predictable outcomes.
  - It involves inquiry, reflection, and synthesis.
  - It is confined to a single academic discipline.

- 12) According to the passage, why is interdisciplinary research important?
- It helps reduce research time.
  - It enhances funding opportunities.
  - It limits the scope of research to practical issues only.
  - It allows researchers to look at problems from multiple perspectives.
- 13) The author mentions environmental science to illustrate that:
- Real-world problems require knowledge from multiple fields.
  - Science should be separated from politics.
  - Environmental issues are too complex to study.
  - Research in science is more ethical than in other fields.
- 14) Which skill is highlighted as essential for modern researchers when addressing diverse audiences?
- Multilingual translation
  - Complex statistical modelling
  - Academic writing with clarity and insight
  - Programming knowledge
- 15) What is suggested about ethical concerns in modern research?
- They are only relevant in scientific research.
  - They have become more visible and regulated.
  - They are mostly ignored in social sciences.
  - They focus primarily on plagiarism.
- 16) Which is not a type of communication?
- Verbal
  - Non-Verbal
  - Mechanical
  - Written
- 17) The main barrier to effective communication is:
- Clarity
  - Noise
  - Feedback
  - Message
- 18) Non-verbal communication includes:
- Memos
  - Emails
  - Body Language
  - Announcements
- 19) Classroom communication is primarily:
- One-Way
  - Passive
  - Interactive
  - Digital
- 20) Effective communication requires:
- Understanding the Audience
  - High Vocabulary
  - Fast Delivery
  - Monologue
- 21) What will be the number in place of (?) in the following number series?  
11, 12, 28, 93, 388, (?)
- 1965
  - 865
  - 1956
  - 2065
- 22) In a certain code, if MISTER is coded as 131776218, then GENTLE will be coded as:
- 751420125
  - 19122114612
  - 19211261421
  - 121921867
- 23) The distance between city A to city B is 600 km. Person X leaves city A to go to city B at 8 a.m. at a speed of 60 kmph and person Y leaves city B to go to city A at 10 a.m. at a speed of 20 kmph. At what time will X and Y meet each other ?
- 2 p.m.
  - 4 p.m.
  - 3 p.m.
  - 1 p.m.
- 24) The price (P) of a certain type of Italian Marble varies directly as the square root of its surface area (A) when its thickness (T) is constant, and P varies directly as the square of T when A is constant. If the cost of a piece of marble of surface area 1600 sq. cm. and thickness 3 cm. is Rs. 36000, what is the cost of marble piece whose area is 900 sq. cm. and thickness 4 cm. ?
- Rs. 36000
  - Rs. 54000
  - Rs. 60000
  - Rs. 48000
- 25) A's capacity to do a work is the average of C's capacity and twice B's capacity. B's capacity is the average of C's capacity and half of A's capacity. The ratio of capacities of A and B is:
- 4 : 5
  - 5 : 4
  - 5 : 8
  - 8 : 5

- 26) Given below are two statements related to the Upanishadic tradition:  
Statement I: Paravidya means knowledge that transcends human experience.  
Statement II: Aparavidya means knowledge based on the human experience.  
In light of the above statements, what is the most appropriate option amongst the following?  
A) Both statements I and II are true.  
B) Both statements I and II are false.  
C) Statement I is true but Statement II is false.  
D) Statement I is false but Statement II is true.
- 27) As 'Fly' is related to 'Parrot', in the same way, 'Creep' is related to  
A) Crocodile  
B) Fish  
C) Rabbit  
D) Snake
- 28) In an examination, 53% students passed in Science, 61% passed in English, 60% passed in Social Studies, 24% passed in Science and English, 35% passed in English and Social Studies, 27% in Science and Social Studies and 5% passed in none of the subjects. If the number of students in the class is 200, how many students must have been passed in only one subject ?  
A) Less than 40  
B) More than 50  
C) 46  
D) 48
- 29) Statement: All politicians are honest. Ms. M is an honest lady.  
Conclusions: (I) Ms. M is a politician.  
(II) Ms. M is not interested in politics.  
A) Only conclusion I follows.  
B) Only conclusion II follows.  
C) Conclusions I and II both follows.  
D) Neither conclusion I nor II follows.
- 30) Assertion (A): The World Bank is a leading international financial institution.  
Reason (R): Ever since its formation, it has played a major role in disbursing aid and support to economics across the globe.  
A) Both A and R are true and R is the correct explanation of A.  
B) Both A and R are true but R is not the correct explanation of A.  
C) A is true but R is false.  
D) A is false but R is true.

- 31) The following table gives the percentage distribution of population of two states S1 and S2 on the basis of gender and income:

State	Percentage of population below poverty line	Proportion of Males and Females	
		Below poverty line	Above poverty line
		M : F	M : F
S1	24	1 : 2	2 : 3
S2	19	3 : 2	4 : 3

What will be the number of females above poverty line in state S2 if it is known that the population of state S is 7 million?

- A) 3 million  
B) 2.43 million  
C) 1.61 million  
D) 1.33 million

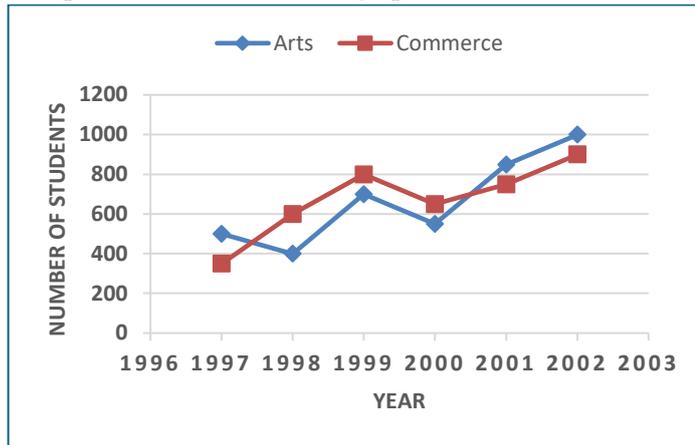
- 32) The table below gives information about four different crops, their different quality categories and the regions where they are cultivated.

Type of crop	Quality	Region
Crop - 1	High	R1, R2, R3, R4, R5
	Medium	R6, R7, R8
	Low	R9, R10, R11
Crop - 2	High	R5, R8, R12
	Medium	R9, R13
	Low	R6
Crop - 3	High	R2, R6, R7, R13
	Medium	R3, R9, R11
	Low	R1, R4
Crop - 4	High	R3, R10, R11
	Medium	R1, R2, R4
	Low	R5, R9

How many low quality Crop-1 producing regions are either high quality Crop-4 producing regions or medium quality Crop-3 producing regions ?

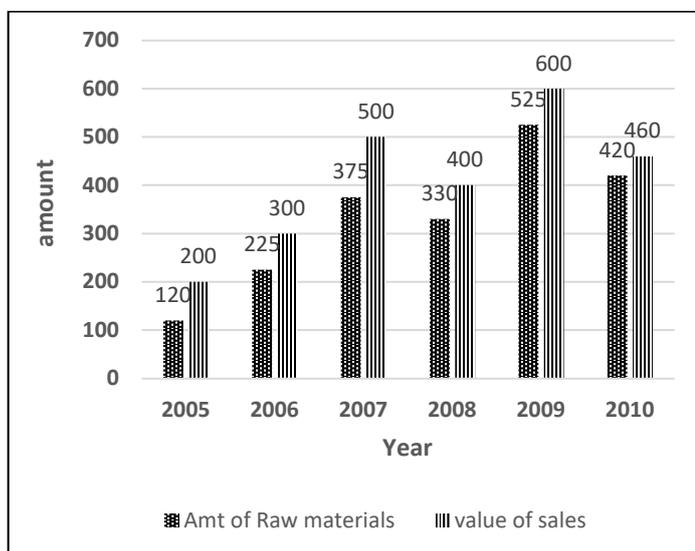
- A) 1  
B) 2  
C) 3  
D) Zero

33) Study the following graph carefully to answer the question that follows the graph:



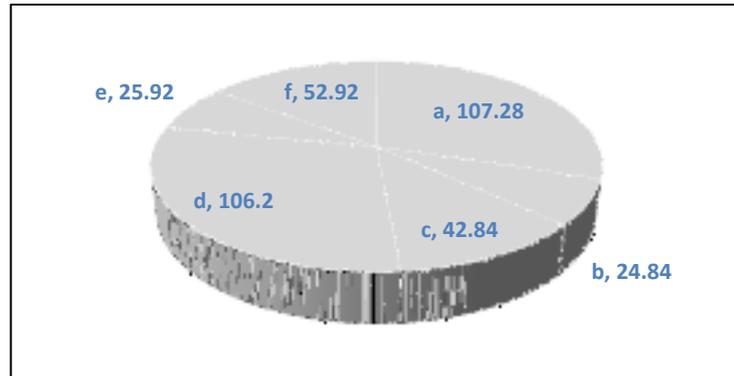
How much is the approximate increased percentage in the number of students studying Arts and Commerce together from 1997 to 2000 ?

- A) 41
  - B) 55
  - C) 75
  - D) 108
- 34) From the following diagram, the value of sales of finished goods in 2009 was approximately what percentage of the average amount invested in raw materials in the years 2007, 2008 and 2009?



- A) 33
- B) 37
- C) 45
- D) 49

35) The gross investments of LIC of India (in crores of rupees) in different sectors are shown in the chart given below, where a: society-oriented non-plan sectors, b: society-oriented plan sectors, c: private sectors, d: central government securities, e: state government securities, f: securities guaranteed by government. The data values in the circle diagram represents the angle of each sector.



The investment in private sector is nearly \_\_\_\_\_ percent higher than the investment in state government securities.

- A) 6.9
  - B) 7.2
  - C) 4.7
  - D) 4.5
- 36) The theme of channel No 4 (SAARASWAT) of SWAYAMPRAKASH is-
- A) Education and Home Science
  - B) Information, Communication and Management Studies
  - C) Law and Legal Studies
  - D) Economics and Commerce
- 37) Which of the following electronic technologies is the key technology for making second generation electronic computers?
- A) Transistor based
  - B) Integrated circuit based
  - C) Vacuum Tube based
  - D) Dual core CPU based

- 38) Given below are two statements-  
Statement-I The word blog is short for "weblog" (a combined version of the words "web" and "log").  
Statement-II WordPress, Wix are examples of blogging platform.  
Choose the correct answer from the options given below
- A) Both statements are true.  
B) Both statements are false.  
C) Statement-I is true but Statement-II is false.  
D) Statement-I is false but Statement-II is true.
- 39) Given below are two statements-  
Statement-I Unlike viruses, worms can replicate and spread independently across networks without needing to attach to a file.  
Statement-II Ransomware encrypts files on a system and demands payment (usually in cryptocurrency) for their decryption.  
Choose the correct answer from the options given below
- A) Both statements are true.  
B) Both statements are false.  
C) Statement-I is true but Statement-II is false.  
D) Statement-I is false but Statement-II is true
- 40) Which of the following are examples of 'Web Browser'?
- I. Google Chrome  
II. Mozilla Firefox  
III. Apple Safari  
IV. Opera
- Choose the correct option-
- A) I and II only  
B) II and III only  
C) III and IV only  
D) I, II, III and IV
- 41) Which of the following state has maximum of mangrove cover in India?
- A) Goa  
B) West Bengal  
C) Kerela  
D) Andaman and Nicobar Islands
- 42) Which of the following natural hazards has a big effect on the Indian people each year?
- A) Cyclones  
B) Floods  
C) Earthquakes  
D) Landslides
- 43) \_\_\_\_\_ is the main constituent of CNG.
- A) Methane  
B) Butane  
C) Ethane  
D) Propane
- 44) The gas that is mainly responsible for global warming because of its quantity in the atmosphere is
- A) Chlorofluorocarbons  
B) Carbon dioxide  
C) Methane  
D) Nitrogen
- 45) 'World Earth Day' is celebrated every year on \_\_\_\_\_.
- A) February 22  
B) March 22  
C) April 22  
D) September 22
- 46) Which ancient Indian institution was renowned for its global reputation in higher learning?
- A) Nalanda  
B) Takshila  
C) Vikramshila  
D) All of the above
- 47) The primary focus of post-independence educational policies in India was:
- A) Restricting Foreign Education  
B) Promoting Sanskrit-Based Learning Only  
C) Expanding Access, equity and inclusivity in Education  
D) Privatizing all institutions
- 48) Non-conventional learning programmes in India include:
- A) Distance education and MOOCs  
B) Traditional classroom lectures  
C) Ancient Gurukul system  
D) Vedic chanting schools
- 49) Professional education in India primarily aims to:
- A) Promote Literary Fiction  
B) Build critical thinking in history only  
C) Prepare students for specialized careers  
D) Discourage skill-based training
- 50) Which of these bodies is primarily responsible for governance in higher education in India?
- A) WHO  
B) UGC  
C) RBI  
D) FSSAI

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**Rough Work:**