



GATE 2022 General Aptitude (GA)

Q.1 – Q.5 Carry ONE mark each.

Q.1	Inhaling the smoke from a burning could you quickly.
(A)	tire / tier
(B)	tire / tyre
(C)	tyre / tire
(D)	tyre / tier

Q.2	A sphere of radius r cm is packed in a box of cubical shape. What should be the minimum volume (in cm ³) of the box that can enclose the
	sphere?
(A)	$\frac{r^3}{8}$
(B)	r ³
(C)	2r ³
(D)	8r ³

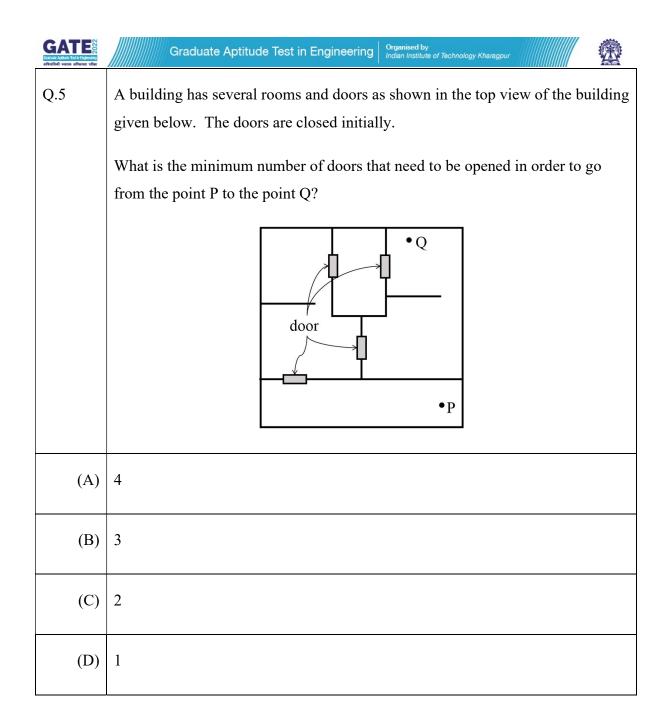
GATE हारप्रायर म्रह्मार्थ अपनिकार अभियरिकी भनातक अभिवाशा सीका	Graduate Aptitude Test in Engineering Organised by Indian Institute of Technology Kharagpur
Q.3	Pipes P and Q can fill a storage tank in full with water in 10 and 6 minutes, respectively. Pipe R draws the water out from the storage tank at a rate of 34 litres per minute. P, Q and R operate at a constant rate.If it takes one hour to completely empty a full storage tank with all the pipes operating simultaneously, what is the capacity of the storage tank (in litres)?
(A)	26.8
(B)	60.0
(C)	120.0
(D)	127.5





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Q.4	Six persons P, Q, R, S, T and U are sitting around a circular table facing the center not necessarily in the same order. Consider the following statements:
	 P sits next to S and T. Q sits diametrically opposite to P. The shortest distance between S and R is equal to the shortest distance between T and U. Based on the above statements, Q is a neighbor of
(A)	U and S
(B)	R and T
(C)	R and U
(D)	P and S







Q. 6 – Q. 10 Carry TWO marks each.

Q.6	Rice, a versatile and inexpensive source of carbohydrate, is a critical component of diet worldwide. Climate change, causing extreme weather, poses a threat to sustained availability of rice. Scientists are working on developing Green Super Rice (GSR), which is resilient under extreme weather conditions yet gives higher yields sustainably. Which one of the following is the CORRECT logical inference based on the information given in the above passage?
(A)	GSR is an alternative to regular rice, but it grows only in an extreme weather
(B)	GSR may be used in future in response to adverse effects of climate change
(C)	GSR grows in an extreme weather, but the quantity of produce is lesser than regular rice
(D)	Regular rice will continue to provide good yields even in extreme weather





A game consists of spinning an arrow around a stationary disk as shown below. Q.7 When the arrow comes to rest, there are eight equally likely outcomes. It could come to rest in any one of the sectors numbered 1, 2, 3, 4, 5, 6, 7 or 8 as shown. Two such disks are used in a game where their arrows are independently spun. What is the probability that the sum of the numbers on the resulting sectors upon spinning the two disks is equal to 8 after the arrows come to rest? 1 1 8 8 7 7 2 2 6 3 6 3 4 5 4 5 $\frac{1}{16}$ (A) 5 64 (B) 3 32 (C) $\frac{7}{64}$ (D)



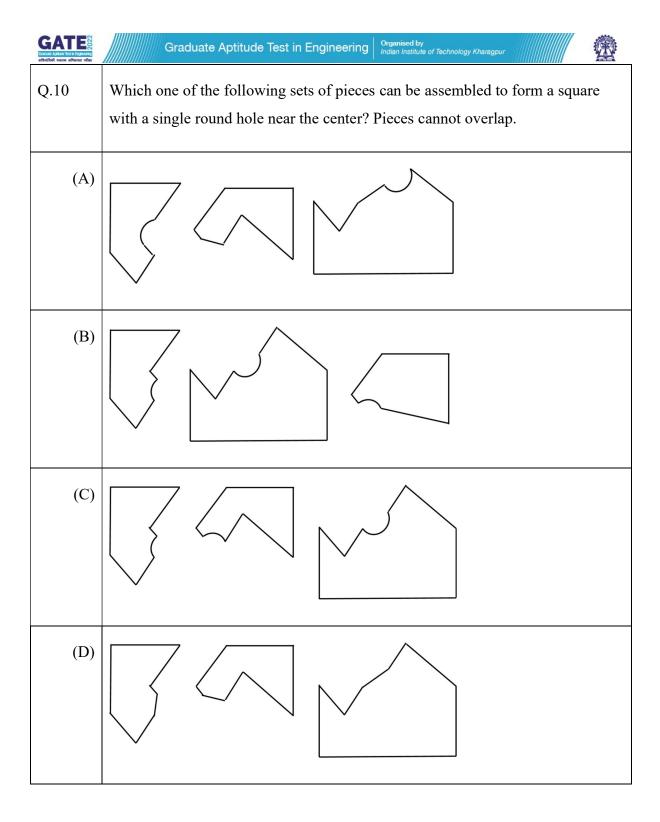


Q.8	Consider the following inequalities.
	(i) $3p - q < 4$
	(ii) $3q - p < 12$
	Which one of the following expressions below satisfies the above two
	inequalities?
(A)	p+q<8
(B)	p + q = 8
(C)	$8 \le p + q < 16$
(D)	$p + q \ge 16$





Q.9	Given below are three statements and four conclusions drawn based on the statements.
	Statement 1: Some engineers are writers.
	Statement 2: No writer is an actor.
	Statement 3: All actors are engineers.
	Conclusion I: Some writers are engineers.
	Conclusion II: All engineers are actors.
	Conclusion III: No actor is a writer.
	Conclusion IV: Some actors are writers.
	Which one of the following options can be logically inferred?
(A)	Only conclusion I is correct
(B)	Only conclusion II and conclusion III are correct
(C)	Only conclusion I and conclusion III are correct
(D)	Either conclusion III or conclusion IV is correct







XH-B1: Q.11 – Q.27 Carry ONE mark Each

Q.11	A relationship is expressed as Iodine : Goitre .
	The pair(s) of words showing SIMILAR relationship is/are
	Space for Figure/Equation, if any:
(A)	Mango : Anaemia
(B)	Insulin : Diabetes
(C)	Fat : Obesity
(D)	Hormones : Heredity
Q.12	Three individuals are named P, Q, and R. Together they have a total of fifteen children of which nine are boys. P has three girls and Q has same number of boys. Q has one more child than P, who has four children. R has four more boys than the number of girls. The number of girls of R is equal to the number of boys of P. How many boys do R and P have?
	Space for Figure/Equation, if any:
(A)	R = 3, P = 3
(B)	R = 4, P = 2
(C)	R = 5, P = 1
(D)	R = 2, P = 4





	2022 Sociology (XH-C6)
Q.13	A sentence has been given below.
	The train will leave at 8:30 PM, we have been ready by 7:30 PM, so that we can reach the station on time.
	To make the above sentence grammatically correct, the phrase marked in <i>bold</i> is to be replaced by
	Space for Figure/Equation, if any:
(A)	were
(B)	are
(C)	must be
(D)	should have
Q.14	Complete the sentence correctly using the options given below.
	Hastings (p) developed as a holiday resort after (q) .
	Space for Figure/Equation, if any:
(A)	(p) = a seaside town, (q) = the first world war
(B)	(p) =, a seaside town, $(q) =$ the First World War
(C)	(p) = , a Seaside Town, (q) = World War I
(D)	(p) = A seaside town $(q) = World War I$





GATE 2	GATE 2022 Sociology (XH-C6)		
Q.15	The Arecibo telescope does not resemble what most of us think of when we hear the word telescope. Its reflective surface covers an area of 20 acres, which is quite remarkable. Dangling above it are towers and cables, sub-reflectors and antennas, all of which can be positioned using 26 motors to transmit radio waves and receive echoes with astonishing precision.		
	From the passage, it can be inferred that most telescopes		
	Space for Figure/Equation, if any:		
(A)	are not as large as Arecibo		
(B)	do not have reflective surface		
(C)	cannot be re-positioned		
(D)	strictly have 26 motors		





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Q.16	Tailgating another vehicle is unsafe and illegal. Many rear-end collisions are caused by drivers following too close to the vehicle in front of them. The rules state that a driver must keep significant distance from the vehicle in front in order to stop safely and avoid a collision. Drivers should allow a minimum two seconds gap between their vehicle and the one ahead. At 60 km per hour, this equates to a gap of 33 meters; at 100 km per hour, it equates to a gap of 55 meters. More distance is needed to safely stop in rain or poor visibility, as during rain slippery roads reduce the effectiveness of braking. Which of the following statement(s) can be inferred from the above passage?		
	Space for Figure/Equation, if any:		
(A)	People drive faster in rain and under poor visibility.		
(B)	Braking may not be as effective during rain as in the dry conditions.		
(C)	Tailgating is against the road rules.		
(D)	Collision has no relationship with tailgating.		
Q.17	There are three separate, but equal-sized boxes. Inside each box, there are two separate small boxes. Inside each of the small boxes, there are four even smaller boxes. The total number of boxes will be		
	Space for Figure/Equation, if any:		





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GATE 2022 Sociology (XH-C6) Q.18 – Q.26 Carry TWO marks Each

In a specific language, <i>xer dan</i> means "big horse", <i>liro cas</i> means "red tomato" and <i>dum cas dan</i> means "big red barn".
The equivalent word for barn in this language is
Space for Figure/Equation, if any:
dum
liro
dan
cas
Park street is parallel to Rock street. Garden street is perpendicular (90°) to Lake street. Lake street is parallel to Rock street.
For the situation described above, the TRUE statement is
Space for Figure/Equation, if any:
Park street is perpendicular to Lake street
Rock street is parallel to Garden street
Park street is parallel to Garden street
Garden street is perpendicular to Park street





	022 Sociology (XH-C6)
Q.20	Six examinations are required to be conducted in a week starting from Sunday to Saturday. Hindi is not scheduled on the first day and English is not scheduled before Hindi. Mathematics is scheduled one day after Physics. Biology is scheduled two days after Hindi. One day prior to Chemistry, there is no examination. Only one examination can be scheduled on a single day and Sunday is not an off day. What are the subjects scheduled on first and the last days?
	Space for Figure/Equation, if any:
(A)	First day Physics, Last day Biology
(B)	First day Physics, Last day Chemistry
(C)	First day Physics, Last day English
(D)	First day English, Last day Biology



GATE 2	2022 Sociology (XH-C6)		
Q.21	A passage consists of 6 sentences. The first and sixth sentences of the passage are at their correct positions, while the middle four sentences (represented by P , Q , R , and S) are jumbled up.		
	First sentence: Smoke oozed up between the planks.		
	P : Passengers were told to be ready to quit the ship.		
	Q : The rising gale fanned the smouldering fire.		
	R : Everyone now knew there was fire onboard.		
	S: Flames broke out here and there.		
	Sixth sentence: Most people bore the shock bravely.		
	The most logically CORRECT order for the given jumbled up sentences is		
	Space for Figure/Equation, if any:		
(A)	QSRP		
(B)	QPSR		
(C)	RSPQ		
(D)	PQRS		





GATE 2	2022 Sociology (XH-C6)		
Q.22	For a painting to succeed, it is essential that the painter and his public agree about what is significant. The subject of the painting may have a personal meaning for the painter or a common person; but there can also be the possibility of their agreement on its general meaning. It is at this point that the culture of the society and the period in question precedes the artists and her/his art. Renaissance art would have meant nothing to the Aztecs, and vice versa. If, to some extent, a few intellectuals can appreciate them both today, it is because their culture is a historical one. Its inspiration is history and all known developments to date. According to the passage, which of the following is/are NOT necessarily among the attributes needed for a painter to succeed?		
	Space for Figure/Equation, if any:		
(A)	The subject must have a personal meaning for the painter.		
(B)	The painter is able to communicate and justify the significance of its subject selection.		
(C)	The painter and the public agree on what is significant.		
(D)	The painting of the subjects is driven by public demand.		
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GATE 2	022 Sociology (XH-C6)
Q.23	Vinod has a pre-determined route. Each morning he delivers 37 newspapers to customers in his neighborhood. It takes Vinod 50 minutes to deliver all the papers. When Vinod was sick or had other engagements, his friend Tarun, who lives on the same street delivered the papers on his behalf.
	Find the statement(s) that must be TRUE according to the given information.
	Space for Figure/Equation, if any:
(A)	Vinod and Tarun lived in the same locality.
(B)	It was dark outside when Vinod began his delivery.
(C)	It took Tarun more than 50 minutes to deliver the papers.
(D)	Tarun delivered 37 newspapers to customers.



GATE 2	022 Sociology (XH-C6)		
Q.24	Cholera, typhoid, diphtheria and tuberculosis cause huge number of deaths. Poor quality drinking water has always been the world's greatest single carrier of sickness. Disease is transmitted when sewage and drinking water come into contact. Children are particularly vulnerable. In some of the poorest countries the infant mortality rate is high. The separation of sewage and the supply of clean drinking water are the domain of civil engineers, and their work makes a significant contribution to public health. That contribution was recognized when public sanitation was voted the greatest medical breakthrough, beating the discoveries including antibiotics and vaccines in a poll organized by the British Medical Journal. Identify the statement(s), which is/are NOT TRUE according to the passage.		
	Space for Figure/Equation, if any:		
(A)	Children are less prone to water borne diseases.		
(B)	The infant mortality rate was high in economically weaker countries.		
(C)	The provision of sewage and drinking water should be adequately separated from each other.		
(D)	The literature states that the public health and sanitation was never given its due importance.		





GATE 2	ATE 2022 Sociology (XH-C6)				
Q.25	Shark's teeth have evolved to correspond to the diet of each particular species of shark. Consequently, the teeth of the great white shark bear little resemblance to those of the bull shark or nurse shark. There were essentially four different shark diets and thus four varieties of shark teeth. Sharks that feed on fish have needle like teeth, perfect for spearing and ripping. Sharks that eat mammals such as seals and sea lions have heavy, serrated teeth, typically triangular on the upper jaw and pointed on the lower jaw. Shark that feed in the benthic zone of the ocean have flattened teeth for crushing the shell of the creatures they find scuttling in the sand or clinging to rocks. Sharks that bask have teeth that are largely non-functional; these sharks filter food from the water by passing it through their gills. Which of the following is/are the CORRECT inference(s) as per the passage?				
	Space for Figure/Equation, if any:				
(A)	Shark's teeth are not specially designed for slaughter.				
(B)	The shape of the shark's teeth relates to its prey.				
(C)	Some species of sharks filter food through their gills.				
(D)	Shark's teeth relate to its diet.				



Q.26 A particular school management wants to contact all parents, all businessmen and all engineers. The following statistics are available with the school. Businessmen = 50Engineers = 25Parents = 2500Businessmen who are engineers = 0Businessmen who are parents = 25Engineers who are parents = 15The number of people needs to be contacted are . Space for Figure/Equation, if any:





Q. 27 – Q. 44 Multiple Choice Questions (MCQ), carry ONE mark each

- Q.27 In a questionnaire based survey, the following item was asked to a respondent:
 "I found the course interesting and structured."
 Yes □ No
 Which one of the given options clearly describes the item?
 (A) This is a double barreled item.
 (B) This is a leading item.
- (C) This is negatively worded item.
- (D) This item is correctly constructed.

- Q.28 Which one of the following is used in causal analysis?
- (A) Pearson correlation
- (B) Linear regression
- (C) Frequency distribution
- (D) Standard deviation





- Q.29 Which one of the given options reflects Karl Popper's falsification principle?
- (A) Any theory is scientific only if it allows empirical facts to disprove it
- (B) Manipulation of observational data will help the researchers to give new results
- (C) Scientists should not report false data
- (D) Lab based scientific experiments cannot be falsified

- Q.30 Resource mobilization theory of social movements analyses social movements as
 - the rational undertakings by activists in a movement as they build a collective project
- (A) pro

the emotional dynamics of the activists in a movement

- (B)
- the pre-existing solidarities of movement entrepreneurs that bring people together (C)
 - the revolutionary potential of ordinary people

(D)





- Q.31 Which one of the following methods uses a control group while validating the impact of intervention programmes?
- (A) Qualitative interviews
- (B) Quantitative survey
- (C) Experimental designs
- (D) National sample survey

- Q.32 Which is not a trait of a sociological theory?
- (A) It is logically interconnected propositions.
- (B) It has no relationship with the data.
- (C) It can be speculative.
- (D) It may predict facts.





- Q.33 According to Pierre Bourdieu, the way one speaks or having an accent is ______ form of cultural capital.
- (A) an objectified
- (B) an embodied
- (C) an institutionalized
- (D) an unusual

- Q.34 Which one of the given options is not a latent function of attending a university?
- (A) To receive a certificate or a degree
- (B) To find a suitable spouse
- (C) To establish startups
- (D) To improve physical fitness





- Q.35 Who among the following highlighted the concept of 'Swaraj' in the reconstruction of traditional village life?
- (A) Jawaharlal Nehru
- (B) Mahatma Gandhi
- (C) B.R. Ambedkar
- (D) Ram Mohan Roy

- In the 1960s, India adopted a heavy usage of high yielding varieties of seed,
 chemical fertilizers, pesticides, and new machines to raise the productivity of agricultural land. This process was described as _____.
- (A) White Revolution
- (B) Land Revolution
- (C) Green Revolution
- (D) Technology Revolution





- Q.37 Among the Toda of South India, property is inherited patrilineally and ritualistic privileges are inherited matrilineally. This is an example of ______.
- (A) unilateral descent
- (B) matrilineal descent
- (C) pragmatic descent
- (D) bilateral descent

- Q.38 Which of the following scholars described India's villages as a 'den of ignorance, narrow-mindedness and communalism'?
- (A) B.R. Ambedkar
- (B) M.K. Gandhi
- (C) Jawaharlal Nehru
- (D) S.S. Jodhka





- Q.39 Who among the following gave the concept of 'global village'?
- (A) Marshall McLuhan
- (B) Anthony Giddens
- (C) Roland Robertson
- (D) T.H. Marshall

- Q.40 Commodity chain is defined as _____.
- (A) a series of production stages, or network of labour inputs, distributed globally among production sites
- (B) importing commodities to meet the domestic needs
- (C) outsourcing the marketing of commodities to private agencies
- (D) import substituted industrialization



- Which of the following is a process wherein socialist states guide economic growththrough the planned allocation of public and human resources, as an alternative toallocation through the market?
- (A) Social capitalism
- (B) Centralized planning
- (C) Corporatism
- (D) Developmentalism

- Q.42 An approach that reformulates development emphasizing essential human needs over and above rising incomes is referred to as _____.
- (A) integrated development approach
- (B) endogenous development approach
- (C) basic needs approach
- (D) community development approach





- Q.43 Which of the following scholars emphasized the subaltern perspective in social movements involving peasants?
- (A) Veena Das
- (B) Geeta Chakraborty-Spivak
- (C) Jan Breman
- (D) Ranajit Guha

- Q.44 Which of the following institutions provides the structural link between caste and gender in kinship in India?
- (A) Panchayat
- (B) Class
- (C) Household
- (D) Marriage



GATE

Q. 45 – Q. 65 Multiple Choice Question (MCQ), carry TWO marks each

- Q.45 A researcher is conducting a survey about internet use among the students. She was asked to follow a probability sampling technique. Which one of the given options is most suitable?
- (A) Stand in front of the library located in her college and hand over the survey questionnaires.
- (B) Collect the email ids of the students and send the questionnaire.
- (C) Collect the roster of students from the college administration and give the questionnaire to those selected through a lottery.
- (D) Give the questionnaires to a data collection agency.

- Q.46 According to Talcott Parsons, the dichotomies of pattern variables or alternatives an actor can choose in society are: ascription vs _____; affectivity vs _____; and diffuseness vs _____.
- (A) achievement, neutrality, specificity
- (B) attribution, emotion, distraction
- (C) achievement, hatred, specificity
- (D) attribution, neutrality, distraction

- Q.47 According to Peter Blau, there is _____ price in social exchange but only _____ exchange ratio between two social benefits, because personal considerations and social norms influence the process of _____.
- (A) an exact equilibrium, an approximate, social exchange
- (B) no exact equilibrium, an equal, social exchange
- (C) no exact equilibrium, an approximate, social exchange
- (D) no exact equilibrium, an approximate, social relationships
- Q.48 ANOVA means ______.
- (A) analysis of variance
- (B) analysis of variable average
- (C) another variable average
- (D) a non-parametric variable

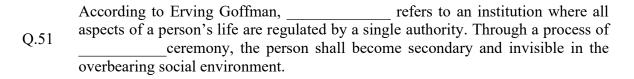
GATE

A researcher got excited on seeing a celebrity tweeting about COVID19. She downloaded one million tweets using a software application. Then she analyzed the Q.49 data to find out whether celebrities have a social conscience. What is this research approach called?

- (A) Abductive approach
- (B) Inductive approach
- (C) Deductive approach
- Operations approach (D)

- According to Robert Merton, innovation is a mode of adaptation when cultural goals Q.50 are _____ and institutionalized means are _____.
- (A) accepted, rejected
- (B) rejected, accepted
- (C) accepted, accepted
- rejected, rejected (D)

GATE



- (A) university, graduation
- (B) total institution, degradation
- (C) university, degradation
- (D) total institution, graduation

Q.52 Match the following:

Α	Village as 'vicinity'		Ι	F.G. Bailey
В	Village as waiting room for industrial		II	M.N. Srinivas
	labour markets			
С	Sanskritization		III	Dipankar Gupta
D	Study of Bisipara village		IV	Jonathan Parry
		7	V	Kathleen Gough

- (A) A-III, B-II, C-V, D-I
- (B) A-III, B-IV, C-II, D-I
- (C) A-V, B-III, C-II, D-I
- (D) A-IV, B-III, C-II, D-V





Q.53 According to Walt W. Rostow, all nations pass through ______ stages of economic development and ______ stage marks the interval when the old blocks and resistances to steady growth are finally overcome.

- (A) five, the take-off
- (B) four, the drive to maturity
- (C) five, the preconditions for take-off
- (D) four, the age of high consumption

Which of the following statements are correct?

[i] Gustavo Esteva argues that the 1949 address of the US President Harry S. Truman marks the opening of the era of development.

Q.54

[ii] According to Escobar, 'development can best be described as an apparatus that links forms of knowledge about the Third World with the deployment of forms of power and intervention, resulting in the mapping and production of Third World societies'.

- (A) [i] only
- (B) [ii] only
- (C) Both [i] and [ii]
- (D) Neither [i] nor [ii]



Q. 55 – Q. 65 Multiple Select Question (MSQ), carry TWO marks each

Which among the listed options most closely replicate(s) Jurgen Habermas' idea ofQ.55 the public sphere?

- (A) PayTM App
- (B) Facebook
- (C) IRCTC Portal
- (D) YouTube

In the light of given information, which pairs are correct?

- Q.56 M1: Anthony Giddens M2: Robert Merton M3: George Ritzer X1: Macdonaldization of society X2: Mathew Effect X3: The Third Way
- (A) M1X3
- (B) M2X2
- (C) M1X1
- (D) M2X3



- Q.57 What concepts were studied in the famous Milgram social experiment where teachers did not hesitate to give electric shocks to learners?
- (A) Conformity
- (B) Obedience
- (C) Deviance
- (D) Consciousness
- Q.58 According to Max Weber, in addition to power what are the other TWO distinct components of stratification?
- (A) Status
- (B) Class
- (C) Counter Culture
- (D) Social Control





- Q.59 While writing on the diversity of rural settlements, Bernard Cohn has identified which of the following village patterns?
- (A) Nucleated Village
- (B) Hamleted Village
- (C) Dispersed Village
- (D) Joint Village
- Q.60 According to Andre Gunder Frank, which of the following factors are responsible for the development of underdevelopment in Latin America?
- (A) The survival of archaic institutions
- (B) The relationship between the satellite and the metropolis
- (C) The existence of capital shortage in developed regions
- (D) Participation in the process of world capitalist development



- Q.61 Which of the following statements describe the concept of sustainable development?
- (A) Shrinking role of the government in favour of the market forces
- (B) Meeting the needs of the present without compromising the needs of the future generations
- (C) Conserving natural resources and adopting appropriate technologies
- (D) Privileging of the urban classes and manufacturing sector over rural society

- Q.62 The categories of caste and tribe have been understood as colonial constructions. Which statements instantiate the above?
- (A) British anthropologists used the categories of caste and tribe to further knowledge and understanding of Indian society.
- (B) The character of these categories were solidified through processes of enumeration and classification undertaken during British rule.
- (C) These categories had no existence prior to British rule.
- (D) Census operations and administrative practices of the colonial regime made these categories what they are today.



- Q.63 Which statements express the ideas of A. M. Shah with regard to family and household in India?
- (A) Households are task-oriented residence units while families are kinship groupings that need not be localized.
- (B) Households imply the entire biradari (kin network) while families are neo-local units.
- (C) Households are operational units that function with a family and kinship ideology.
- (D) The family provides the larger ideological set-up within which the household operates.

According to Celestin Bougle, the spirit of the caste system is determined by the
 mutual repulsion that exists between castes. Identify TWO different aspects in
 which such mutual repulsion is manifested:

- (A) Upward mobility
- (B) Endogamy
- (C) Westernization
- (D) Commensal restrictions



- Q.65 Which of the following statements explain and illustrate the term 'tragedy of commons'?
- (A) Wasteland development and the ensuing privatization of commons
- (B) Transference of rights and control from the community to development agencies
- (C) Regeneration of ecologically appropriate tree cover
- (D) Socially appropriate community control over a regenerated resource base