Chris Gayle scores fastest century in cricket history

Chris Gayle has set a new record for the fastest century in the history of professional cricket with an astonishing ton off 30 balls for the Royal Challengers Bangalore in the Indian Premier League, and then went on to make the highest score ever seen in Twenty20, ending unbeaten with 175 off 66 balls. The West Indies opener battered the Pune Warriors bowling attack with a century that included seven dot balls, four singles, eight fours and 11 sixes for the home side at the Chinnaswamy Stadium, Bangalore. By the end of his innings he had amassed 17 sixes and 13 fours as Bangalore recorded a total of 263 for five, the highest innings total in a Twenty20 match.Gayle has been having a hit-and-miss IPL in 2013 thus far, with low scores coupled with an 85 off 50 balls and a 92 off 58. But his assault on the Pune bowling attack on Tuesday was in a different category all together, with Gayle's 17 sixes also a record for a T20 innings.

The 30-ball ton beats the previous 34-ball Twenty20 record set by Australia's Andrew Symonds for Kent against Middlesex in 2004. The record in 50-over cricket is Shahid Afridi's 37-ball century for Pakistan against Sri Lanka in 1996. The Test record belongs to Gayle's fellow West Indian Viv Richards, who flayed England for a 56-ball 100 in Antigua in 1986. By the end of the innings, it was hard not to feel sympathy for the bowlers. "Life is all about taking the right decision," tweeted the India captain, MS Dhoni. "Seeing Gayle bat today I think I took the right decision of being a wicketkeeper." Darren Sammy, Gayle's Windies team-mate, described the opener's innings as "a tsunami mixed with a nuclear bomb".

Luke Wright, the England allrounder, escaped with figures of 4-0-26-1, while Bhuvneshwar Kumar was similarly frugal with figures of 4-0-23-0, but the 12 overs of the other five bowlers in the Pune team went for a combined 211.

Unsurprisingly Pune struggled in their replay and could reach only 133 for nine in their 20 overs, the 11 batsmen falling 42 runs short of Gayle's total alone. Gayle completed a fine day's work by taking two wickets for five runs.

NASA invites public to send names, poems and messages to Mars

Want to be a part of space exploration history? NASA is inviting public to submit their names, short poems and personal messages on-line for a DVD to be carried aboard a spacecraft that will study the Martian atmosphere. The DVD will carry every name submitted. The public also is encouraged to submit a message in the form of a three-line poem, or haiku, NASA said. However, only three haikus will be selected. The deadline for all submissions is July 1.

An on-line public vote to determine the top three messages to be placed on the DVD will begin on July 15. The DVD will be in NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft, which is scheduled for launch in November this year. The DVD is part of the mission's 'Going to Mars Campaign' coordinated at the University of Colorado at Boulder's Laboratory for Atmospheric and Space Physics (CU/LASP). "The Going to Mars campaign offers people worldwide a way to make a personal connection to space, space exploration, and science in general, and share in our excitement about the MAVEN mission," said Stephanie Renfrow, lead for the MAVEN Education and Public Outreach programme at CU/LASP. Participants who submit their names to the campaign will be able to print a certificate of appreciation to document their involvement with the MAVEN mission.

"This new campaign is a great opportunity to reach the next generation of explorers and excite them about science, technology, engineering and math," said Bruce Jakosky, MAVEN principal investigator from CU/LASP. "I look forward to sharing our science with the worldwide community as MAVEN begins to piece together what happened to the Red Planet's atmosphere," Jakosky said.

MAVEN is the first spacecraft devoted to exploring and understanding the Martian upper atmosphere. The spacecraft will investigate how the loss of Mars' atmosphere to space determined the history of water on the surface. "This mission will continue NASA's rich history of inspiring and engaging the public in spaceflight in ongoing Mars exploration," said David Mitchell, MAVEN project manager at NASA's Goddard Space Flight Center in Greenbelt.

Willem-Alexander becomes Europe's youngest monarch

Willem-Alexander was installed as the Netherlands first king since 1890 after the abdication of his mother, Queen Beatrix, amid celebrations in Amsterdam. The 75-year-old monarch signed the instrument of abdication this morning after 33 years on the throne in the Royal Palace on the city's Dam Square, which was filled with as many as 25,000 people wearing orange, the Dutch national color. Willem- Alexander, 46, became king immediately. A few minutes later, Beatrix, Willem-Alexander and his wife,Maxima, appeared on the palace balcony to greet the crowds. The royals later crossed the street to the Nieuwe Kerk, a 600-year-old gothic church, where Willem-Alexander was sworn in as king. The city authorities were expecting at least 800,000 visitors for today's events. The celebrations on Queen's Day, a national holiday, were being mirrored across the country with concerts and fairs. Dutch NOS TV was broadcasting 14 hours of live programming.

Beatrix "gave her trust for 33 years and she did not betray that trust. That is the basis of her authority," Willem- Alexander said of his mother in his speech before being sworn in. "I know that I express the feelings of many people in the Netherlands and the Caribbean parts of our kingdom. Thank you for the many beautiful years during which you were our queen." His comments drew lengthy applause in the church, including from the new king's three daughters, who were sitting alongside Beatrix.

For the Dutch, Tuesday provided a chance to set aside concerns about the economy amid a third recession since 2009 and after unemployment almost doubled to 8.1 percent over the past four years. Prime Minister Mark Rutte has postponed 4.3 billion euros ($5.6 billion) in budget cuts for next year and urged consumers to stop being gloomy and start spending. Even so, the austerity measures may be reinstated if the economy doesn't grow strongly enough in the coming months. "I take the throne at a time when many people in the kingdom feel vulnerable and insecure," Willem-Alexander said in his speech in the Nieuwe Kerk before swearing his oath of office. "Vulnerable in their jobs or their health. Insecure about their income or their living environment. That children will have a better future than their parents seems less obvious than in the past." Beatrix announced her intention to abdicate in January, following the example of her mother, Queen Juliana, who stepped down from the throne early in 1980.

Social Cohesion

"The inauguration in Amsterdam today is of national importance," Petra Hulst, 35, a designer at Royal Philips Electronics NV who was among those on the city's streets today, said in an interview. "It's good for Amsterdam and good for social cohesion in the Netherlands." "As king, I want to encourage people to make active use of their abilities," Willem-Alexander said. "However great our diversity, however different our convictions and dreams may be, wherever our cradle stood, in the Kingdom of the Netherlands, everyone may voice his opinion and help to build on the basis of equality."

After Tuesday morning's abdication ceremony, the old and new monarchs and Maxima joined in singing the national anthem on the palace balcony. Beatrix then withdrew to be replaced by the daughters of Willem-Alexander and his 41-year-old Argentinian- born wife. The eldest, 9-year-old Princess Amalia, is the new heir to the throne.

"What's so special about a monarchy is that you feel the country's unity more when there are great festive moments, but certainly also during moments of sadness," Rutte said in an interview with NOS, recalling incidents including the 1992 plane crash in the Amsterdam neighborhood of Bijlmermeer and the 2009 attack on the royal family in the city of Apeldoorn.

"The moment that Queen Beatrix put her signature" to the act of abdication was most special, because it was then that the throne constitutionally passed to her son, Rutte said.

The new king is the first monarch to bear the name Willem- Alexander and the first male to reign since Willem III died in 1890. Juliana's mother, Wilhelmina, who succeeded Willem III, also gave up the throne in 1948.

SAARC conference on role of media in conflict resolution starts in Colombo

Media plays a vital role in conflict resolution in every country of the world, Government Spokesman and Information Minister Keheliya Rambukwella told the delegates of the SAARC Information Centre conference on the role of the media in conflict resolution and peace building.

During the war against LTTE, Media Center for National Security was established on the order of President for this purpose, he said while inaugurating the conference in Colombo. Three officers from India's Ministry of Information and Broadcasting are participating in the conference. The event will continue until Saturday in Colombo with the participation of representatives of all seven SAARC members.

Violence in China's Xinjiang Kills 21 People, Government Reports

Violence in China's western Xinjiang region killed 21 people, including 15 neighborhood officials and police and six attackers, the local government reported. Three officials visiting a home discovered suspicious people and banned knives and alerted their superiors by phone, according to a report by Tianshan Net, a news website controlled by the local government. Those workers were then held by the suspects and when the police arrived, violence ensued and the house was set on fire, according to the report, posted to the Xinjiang government's website today.

Among the 15 police and neighborhood officials killed, 10 were of the ethnic Uighur minority group, three were of the majority Han Chinese ethnic group, and two were ethnic Mongolian, the report said. Another two ethnic Uighurs were injured and eight suspects were taken into custody, according to the report.

The incident took place in the western part of Xinjiang near the ancient Silk Road city of Kashgar. The central government in Beijing faces occasional challenges to its power from Uighurs, who make up less than half of Xinjiang's population of about 22 million. Unrest in the city of Urumqi in 2009 killed almost 200 people. Years of central government policies encouraging migration of majority Han Chinese to areas such as Tibet and Xinjiang have stoked ethnic tensions. China views groups pushing for greater independence as seditious.

Wimbledon announces 40 percent hike in prize money

This year's singles champions at Wimbledon will each receive $2.4 million (1.6 million pounds) after the All England Club increased overall prize money by a record 40 percent for the biggest total payout in tennis history. Wimbledon also announced Tuesday that it plans to build a retractable roof on Court No. 1 in the latest move to combat the rain delays that affected the tournament over the years.

Prize money will total $34.4 million (22.6 million pounds), an increase of $9.9 million (6.5 million pounds) from last year. The club called it the largest single increase and biggest total prize fund in the history of professional tennis. The singles winners will get a 39 percent increase over the $1.75 million (1.15 million pounds) that Roger Federer and Serena Williams picked up last year.

The focus of the money increase will be for players who lose in the early rounds or in qualifying of the grass-court championships, which will be played from June 24 to July 7.

Prize money will go up 60 percent for singles players who exit in the first three rounds. A first-round loser will earn $35,800 (23,500 pounds), up from $22,100 (14,500 pounds) in 2012.

The purse for qualifying is going up by 41 percent, while doubles players will receive a 22 percent increase. Wimbledon chief executive Richard Lewis said he wants to prevent players feeling "less satisfied with the compensation." "The risk you run eventually by failing to invest is you get into a downward spiral — the championships at the moment are in an upward spiral," Lewis said. "That's why we have a track record of investing and we will continue to invest. "One of the reasons (players) feel like it's a fantastic event is because we treat them very well."

The soaring payout comes amid wider economic problems in Britain. "We absolutely understand we are not immune to what's going on in this country — quite the opposite — we fully understand that," Lewis told The Associated Press. "But equally it's important that we invest in the event and we invest based upon the success of the championships.

"We get a good income from our commercial partners, our corporate hospitality, our TV, broadcast contracts, as well as the fans who come and support on the grounds."

Meanwhile, the club said it intends to have a roof installed over Court No. 1 in time for the 2019 tournament. A retractable roof has been in place on Centre Court since 2009 to cope with rain, with indoor matches sometimes stretching late into the night.

Special Issue for CSP2013

Part -3

GUESS PAPER - 13

1. Identify the correct definition of industrial relations :
   (A) Relations between or among human beings
   (B) Relations between employer and employees as individuals
   (C) Relations between parties in an employment context
   (D) Collective relationship between management and trade unions
   Ans (d)

2. Which is the correct order of settlement of industrial disputes ?
   a. Industrial Tribunal
   b. National Tribunal
   c. Conciliation
   d. Labour Court
   (A) c, a, d, b
   (B) c, d, a, b
   (C) a, d, c, b
   (D) c, b, d, a
   Ans (b)

3. Which of the following is not a Tripartite body ?
   (A) Works Committee
   (B) I. L. O
   (C) Indian Labour Conference
   (D) Wage Boards
   Ans (a)

4. The founder of Ahmedabad Textile Labour Association was
   (A) V. V. Giri
   (B) M. K. Gandhi
   (C) B. P. Wadia
   (D) N. M. Lokhande
   Ans (b)

5. The goal of ILO is
   (A) creation of jobs for men and women
   (B) not just creation of jobs but the creation of jobs of acceptable quality
   (C) not overcoming under employment
   (D) not to provide freedom of choice in employment
   Ans (b)

6. Sequence the following developments by their period of occurrence from earliest to the latest :
   (i) The Labour Investigation Committee
   (ii) The Whitley Commission
   (iii) The Enactment of Factories Act
   (iv) The 1st National Commission on Labour
   (A) (ii) (i) (iii) (iv)
   (B) (ii) (iii) (iv) (i)
   (C) (i) (ii) (iv) (iii)
   (D) (iv) (ii) (iii) (i)
   Ans (a)

7. Which is not the characteristics of grievances ?
   (A) Factual
   (B) Fabricated
   (C) Disguised
   (D) Imaginary
   Ans (b)

8. Statutory Minimum wage is fixed under
   (A) Payment of Wages Act, 1936
   (B) Equal Remuneration Act, 1976
   (C) Workmen's Compensation Act, 1923
   (D) Minimum Wages Act, 1948
   Ans (d)

8. The employee State Insurance Act was enacted the basis of which committee's report ?
   (A) B. R. Ambedkar Committee
   (B) B. P. Adarkar Committee
   (C) Royal Commission on Labour
   (D) Labour Investigation Committee
   Ans (b)

10. Who is the author of the book "Fifth Discipline the Art and Practice of the Learning Organization" ?
    (A) Peter Clark
    (B) Peter Segne
    (C) Peter F. Drucker
    (D) Tom Peters
    Ans (b)

11. "Creating jobs, guaranteeing rights at work, extending social protection and promoting social dialogue" are contents of which of the following programmes of ILO ?
    (A) Human Rights
    (B) Decent Work
    (C) International Programme on the Elimination of Child Labour
    (D) INDUS Child Labour Project
    Ans (b)

12. In which company 'Six Sigma' was first experimented ?
    (A) Toyota
    (B) Motorola
    (C) Sony
    (D) Ford
    Ans (b)

13. In which year the formation of the National Renewal Fund to protect the interest of the workers was announced :
    (A) 1956
    (B) 1991
    (C) 1969
    (D) 1992
    Ans (b)

14. The concept/theory of industrial capitalism/dialectical materialism was developed by :
    (A) Karl Marx
    (B) Mahatma Gandhi
    (C) Dunlop J. T.
    (D) Thakur C. P.
    Ans (a)

15. Benefits (India) of globalization like sustained economic growth, free markets, economic globalization, privatisation etc., were summarised by :
    (A) First National Commission on Labour
    (B) Second National Commission on Labour
    (C) National Labour Board
    (D) International Labour Organisation
    Ans (b)

16. Globalization is ruthless, rootless, jobless, fruitless was stated by :
    (A) U. N. O
    (B) U. N. D. P
    (C) I. L. O
    (D) W. H. O
    Ans (b)

17. The Origin, growth and development of employment's organizations in India can be identified as :
    (A) Before 1933
    (B) After 1933
    (C) Before 1947
    (D) After 1947
    Ans (a)

18. The International Organization of Employer's (I.O.E) with headquarters in Genevas was formulated in
    (A) 1910
    (B) 1920
    (C) 1930
    (D) 1940
    Ans (b)

19. Trade Union movement in India emerged between
    (A) 1920-1930
    (B) 1850-1870
    (C) 1870-1880
    (D) 1930-1947
    Ans (a)

20. The constitution of India upholds the principle 'Freedom of Association' as a fundamental right enunciated by I. L. O. convention in
    (A) Article 20(C)
    (B) Article 19(C)
    (C) Article 24(C)
    (D) Article 18(C)
    Ans (b)

21. Which of the following is not correct about Organisation Development ?
    (A) It is not a top management led and supported process.
    (B) It is a process of planned change.
    (C) It is an ongoing collaborative management of organisation culture
    (D) It is a problem solving process.
    Ans (a)

22. Who has given the concept of OCTAPACE culture ?
    (A) Dharni P. Sinha
    (B) T. V. Rao
    (C) D. M. Pestonjee
    (D) Udai Pareek
    Ans (d)

23. Which of the following is a single use plan ?
    (A) Budget
    (B) Rule
    (C) Procedure
    (D) Policy
    Ans (a)

24. Under the Minimum Wages Act, 1948 the appropriate government shall fix the minimum rates of wages payable to the employees employed in an employment specified in
    (A) Schedule I part I
    (B) Schedule I part II
    (C) Schedule I, Part I, II and the employments and added under section 27
    (D) Schedule I and II
    Ans (c)

25. Under the Equal Remuneration Act, 1976 remuneration means
    (A) Basic wage only
    (B) Basic wage and dearness allowance
    (C) Basic wage and emoluments what soever payable
    (D) None of the above
    Ans (c)

GUESS PAPER - 14

1. All of the following diseases require surveillance according to WHO except :
   (A) Chicken-pox
   (B) Yellow fever
   (C) Malaria
   (D) Rabies
   Ans (a)

2. Salk vaccine is a
   (A) Live vaccine
   (B) Live attenuated vaccine
   (C) Killed vaccine
   (D) Toxoid
   Ans (c)

3. The most widely used strain of rubella virus for vaccine production is
   (A) HPV/77
   (B) Japanese To 336
   (C) RA 27/3
   (D) Cendehill virus
   Ans (c)

4. Which of the following viral hepatitis can be prevented by vaccination ?
   I. Hepatitis A
   II. Hepatitis B
   III. Hepatitis C
   IV. Hepatitis E
   (A) I & II correct
   (B) I, II & III correct
   (C) I & III correct
   (D) II, III & IV correct
   Ans (a)

5. Reduced osmalarity ORS recommended by WHO and UNICEF have following ingredients :
   I. Sodium Chloride
   II. Soda bicarob
   III. Potassium Chloride
   IV. Trisodium citrate dihydrate
   (A) I, II, & III correct
   (B) II & III correct
   (C) I, II & IV correct
   (D) I, III & IV correct
   Ans (d)

6. In India rabies does not occur in the following territories:
   I. Kerala
   II. Tamilnadu
   III. Lakshadweep Islands
   IV. Andaman and Nicobar Islands
   (A) I & III correct
   (B) I & II correct
   (C) I, III & IV correct
   (D) III & IV correct
   Ans (d)

7. Following Arboviral diseases are highly prevalent in India.
   I. Dengue
   II. Japanese Encephelitis
   III. Chikungunya
   IV. Yellow Fever
   (A) I, II, & IV correct
   (B) I, II & III correct
   (C) I & III correct
   (D) I & II correct
   Ans (b)

8. Identify correct ascending order of retinol equivalents of commonly consumed food stuffs.
   (A) Milk, Carrots, Eggs, Green Leaves
   (B) Carrot, Eggs, Milk, Green Leaves
   (C) Milk, Eggs, Green Leaves, Carrots
   (D) Green Leaves, Eggs, Milk, Carrots
   Ans (c)

9. Identify correct descending order of Vitamin C content of commonly consumed Indian food stuffs
   (A) Orange, Lime, Amla, Guava
   (B) Lime, Amla, Guava, Orange
   (C) Amla, Guava, Lime, Orange
   (D) Guava, Amla, Lime, Orange
   Ans (c)

10. Identify the correct chronological order of the commencement of the following National Health Programmes
    (A) National Malaria Control Programme, National Blindness Control Programme, National Tuberculosis Control Programme, National Mental Health Programme.
    (B) National Tuberculosis Control Programme, National Malaria Control Programme, National Blindness Control Programme, National Mental Health Programme
    (C) National Malaria Control Programme, National Tuberculosis Control programme, National Blindness Control Programme, National Mental Health Programme
    (D) National Tuberculosis Control Programme, National Blindness Control Programme, National Malaria Control Programme, National Mental Health Programme
    Ans (c)

11. Identify correct chronological order of committees for Health Planning
    (A) Chadah Committee, Mukerji Committee, Jangalwala Committee, Shrivastav Committee
    (B) Mukerji Committee, Chadah Committee, Jangalwala Committee, Shrivastav Committee
    (C) Jangalwala Committee, Mukerji Committee, Chadah Committee, Shrivastav Commmittee
    (D) Shrivastav Committee, Jangalwala Committee, Mukerji Committee, Chadah Committee
    Ans (a)

12. Identify correct chronological order of invention of vaccines :
    (A) Hepatitis A, Hepatitis B, Rotavix, H1N1 influenza
    (B) Hepatitis B, Hepatitis A, Rotavix, H1N1 influenza
    (C) Rotavix, Hepatitis B, Hepatitis A, H1N1 influenza

(D) Rotavix, Hepatitis B, H1N1Influenza, Hepatitis A,
Ans (b)

13. Identify descending order of incidence of low birth weight babies in the following countries :
(A) Pakistan, China, India, U.S.A.
(B) Pakistan, India, U.S.A., China
(C) India, Pakistan, China, U.S.A.
(D) India, Pakistan, U.S.A., China
Ans (d)

14. Identify the child survival rate among the following countries from lowest to highest :
(A) Pakistan, Bangladesh, Sri Lanka, India
(B) Pakistan, Bangladesh, India, Sri Lanka
(C) Pakistan, India, Bangladesh, Sri Lanka
(D) Bangladesh, Pakistan, India, Sri Lanka
Ans (c)

15. Identify the 'Total Neonatal Mortality Rate' of the following states in India (2006) from highest to lowest :
(A) Madhya Pradesh, Chhattisgarh, Haryana, Tamil Nadu
(B) Chhattisgarh, Madhya Pradesh, Tamil Nadu, Haryana
(C) Chhattisgarh, Haryana, Madhya Pradesh, Tamil Nadu
(D) Madhya Pradesh, Haryana, Chhattisgarh, Tamil Nadu
Ans (a)

16. Identify the sitewise incidence of cancer in India among females from highest to lowest
(A) Cervix, Breast, Oesophagus, Mouth and Pharynx
(B) Breast, Cervix, Mouth and Pharynx, Oesophagus
(C) Cervix, Breast, Mouth and Pharynx, Oesophagus
(D) Breast, Cervix, Oesophagus Mouth and Pharynx,
Ans (d)

17. List – I (Type of Vaccine)   List – II (Diseases)
(a) Live vaccine   (i) Pertussis
(b) Killed vaccine   (ii) B.C.G.
(c) Inactivated vaccine (iii) Diphtheria
(d) Toxoid   (iv) Rabies
       (a) (b) (c) (d)
(A) (ii) (iii) (i) (iv)
(B) (iv) (i) (iii) (ii)
(C) (iv) (i) (ii) (iii)
(D) (ii) (i) (iv) (iii)
Ans (d)

18. List – I (Vaccines)   List – II (Routes)
(a) Measles   (i) Oral
(b) BCG   (ii) Subcutaneous
(c) DPT   (iii) Intradermal
(d) OPV   (iv) Intramuscular
       (a) (b) (c) (d)
(A) (iii) (ii) (iv) (i)
(B) (ii) (iv) (iii) (i)
(C) (i) (iii) (ii) (iv)
(D) (ii) (iii) (iv) (i)
Ans (d)

19. List – I (Places)   List – II (Population)
(a) Anganwadi   (i) 1,00,000
(b) Rural subcentre   (ii) 1,000
(c) Primary Health Centre (iii) 5,000
(d) Community Health centre (iv) 30,000
       (a) (b) (c) (d)
(A) (ii) (iii) (iv) (i)
(B) (ii) (iv) (iii) (i)
(C) (i) (iii) (iv) (ii)
(D) (i) (ii) (iv) (iii)
Ans (a)

20. List – I (Diseases)   List – II (Methods of control)
(a) AIDS   (i) Immunization
(b) Yaws   (ii) Chemotheraphy
(c) Typhoid Fever (iii) Use of Condom
(d) Tetanus   (iv) Sanitation
       (a) (b) (c) (d)
(A) (i) (ii) (iv) (iii)
(B) (iii) (ii) (iv) (i)
(C) (ii) (iii) (iv) (i)
(D) (iii) (iv) (ii) (i)
Ans (b)

21. List – I (Breeding Places)   List – II (Vector)
(a) Stagnant water   (i) Anopheles
(b) Clear running water (ii) Calex
(c) Water in cans   (iii) Mansonia
(d) Water weeds   (iv) Ades
       (a) (b) (c) (d)
(A) (i) (iii) (ii) (iv)
(B) (ii) (i) (iii) (iv)
(C) (ii) (i) (iii) (iv)
(D) (ii) (iii) (i) (iv)
Ans (d)

22. All diseases are included in internationally notifiable diseases except
(A) Tuberculosis
(B) Cholera
(C) Plague
(D) Yellow fever
Ans (a)

23. Sex ratio is defined as
(A) Number of males per 1000 females
(B) Number of females per 1000 males
(C) Number of females per 100 males
(D) Number of males per 100 females
Ans (b)

24. Antiserum are prepared from
(A) Guinea pig

25. Herd immunity is important in all except
(A) Polio
(B) Measles
(C) Tetanus
(D) Diphtheria
Ans (c)

26. All prevents maternal fetal transmission of HIV except
(A) Lamuvidine
(B) Amantadine
(C) Zidovidine
(D) Zalicitabane
Ans (b)

27. In India "Rabies free" zone is
(A) Goa
(B) Sikkim
(C) Lakshadweep
(D) Nagaland
Ans (c)

28. Which is most dangerous for transmitting plague ?
(A) Blocked flea
(B) Partial block flea
(C) Unblocked flea
(D) Dead flea
Ans (b)

29. "Strawberry tongue" followed by "raspberry tongue" is characteristic of
(A) Mumps
(B) Measles
(C) Chickenpox
(D) Scarlet fever
Ans (d)

30. The last case of smallpox is reported in the world
(A) 1977
(B) 1978
(C) 1879
(D) 1982
Ans (a)

31. Polio is due to
(A) Virus
(B) Bacteria
(C) Protozoa
(D) Fungus
Ans (a)

32. Minimum gap that should be allowed in between two administered live vaccines
(A) 2 weeks
(B) 4 weeks
(C) 2 months
(D) 4 months
Ans (b)

33. Gadchiroli model is approved as the bases for provision of
(A) Home based care for diarrhoea
(B) Home based safe delivery
(C) Health education of mothers
(D) Home based neonatal care
Ans (d)

34. The most important essential fatty acid is
(A) Linoleic acid
(B) Linolenic acid
(C) Arachidonic acid
(D) Oleic acid
Ans (a)

35. ICMR's recommendation of 1.0 gm protein / kg. body weight assumes a Net Protein Utilization (NPU) of
(A) 60
(B) 65
(C) 100
(D) 50
Ans (b)

36. The overall rate of turnover of proteins in adult man is equivalent to replacement between
(A) 1-2% of body protein each day
(B) 2-3% of body protein each day
(C) 3-4% of body protein each day
(D) 5% of body protein each day
Ans (a)

37. To Promote institutional deliveries RCH II program envisages operationalization for 24 hrs. by 2010 of which one of the following :
(A) All PHCs and CHCs
(B) 50% PHCs and all CHCs
(C) 50% PHCs and 50% CHCs
(D) All PHCs and 50% CHCs
Ans (b)

38. Which one of the following statements in not true about child- woman ratio ?
(A) It is the number of children 0-5 yrs. per 1000 women of child bearing age.
(B) It is derived from census data.
(C) It is used where birth registration statistics do not exist or are in adequate.
(D) It is the number of children 0-4 yrs. per 1000 women of child bearing age
Ans (a)

39. First case of an epidemic is referred as
(A) Index case
(B) Primary case
(C) Suspicious case
(D) Prime case
Ans (b)

40. Disease imported to a country not otherwise present
(A) Exotic
(B) Enzootic
(C) Epizootic
(D) Eudemic
Ans (a)

41. Type of the biological transmission malarial parasite is :
(A) Cyclodevelopmental
(B) Developmental
(C) Propagative
(D) Cyclopropagative
Ans (d)

42. Pneumoconiosis is causes by dust within the size range of
(A) 0.1 to 0.5 microns
(B) 0.1 to 1 microns
(C) 0.5 to 0.8 microns
(D) 0.5 to 3 microns
Ans (d)

43. BCG vaccine is kept in refrigeration in
(A) Chilled Tray
(B) Freezer
(C) Tray below the freezer
(D) Shelves in the door
Ans (c)

44. Inhalation of cotton fibre dust over long periods of time causes
(A) Bagassosis
(B) Byssinosis
(C) Farmer's lung
(D) Anthracosis
Ans (b)

45. Chadler's index is used for measuring worm load of
(A) Ancylostoma duodenale
(B) Ascaris lumbricoides
(C) Strongyloides
(D) Trichuris trichura
Ans (a)

46. Crude Birth Rate denominator is
(A) Total no. of live births in that year
(B) 1000 live births
(C) Total no. of births
(D) Mid year population
Ans (d)

47. WHO South-East Region covers all except
(A) Indonesia
(B) Myanmar
(C) Thailand
(D) Afghanistan
Ans (d)

48. The test to detect contamination of mustard oil with Argemone oil is
(A) Nitric Acid test
(B) Sulphuric Acid test
(C) Chromic Acid test
(D) Hydrochloric Acid test
Ans (a)

49. Pulses are deficient in
(A) Methionine
(B) Lysine
(C) Leucine
(D) Tryptophan
Ans (a)

50. Water fluoride is removed by
(A) Boiling
(B) Nalgonda Technique
(C) Patna Technique
(D) Filtration
Ans (b)

51. The size of sand in Rapid sand Filter is
(A) $0.62 - 2.0$ mm
(B) $2.5 - 3.0$ mm
(C) $0.4 - 0.7$ mm
(D) $0.5 - 0.8$ mm
Ans (c)

52. 'Nuisance mosquito' refers to
(A) Anopheles
(B) Culex
(C) Aedes
(D) Mansonia
Ans (b)

53. DDT acts by
(A) Contact poison
(B) Repellent
(C) Stomach poison
(D) Respiratory poison
Ans (a)

54. 'Ergonomics' is
(A) Human engineering
(B) Genetic manipulation
(C) Occupational alteration
(D) Social engineering
Ans (c)

55. The national cancer Registry program of the ICMR provides data on incidence of cancer in India from
(A) Six population based registries.
(B) Five population based registries.
(C) Seven population based registries.
(D) One population based registry.

Ans (a)

56. The most sensitive index of recent transmission of malaria in a community is
(A) Spleen rate
(B) Infant parasite rate
(C) Annual Parasite incidences
(D) Slide positivity rate
Ans (b)

57. Any loss or abnormality of psychological, physiological or anatomical structures or function is termed
(A) Impairment
(B) Disability
(C) Handicap
(D) Disease
Ans (a)

58. Which of the following study designs can be used to calculate the incidence directly ?
(A) Cross sectional
(B) Case control
(C) Retrospective
(D) Prospective
Ans (d)

59. Which of the following is not true about Annual Infection Rate of tuberculosis ?
(A) 1% increase in AIR is equivalent to 50 new cases of Sputum positive TB.
(B) It is one of the best indicator for evaluating tuberculosis and its trend.
(C) It expresses attacking force of tuberculosis in community.
(D) It is 2% in India.
Ans (d)

60. The first evidence of infection in Hepetitis B is
(A) Anti HBs
(B) HBe Ag
(C) HBs Ag
(D) Anti HBc
Ans (d)

61. Screening test is not useful when
(A) Condition support is an important health problem i.e. prevalence is high
(B) There is a test that can defect the disease prior to onset of signs and symptoms.
(C) Condition sought is not an important health problem i.e. prevalence is low.
(D) There is an effective treatment
Ans (c)

62. Transovarian transmission occurs in
(A) Malaria
(B) Plague
(C) Filariasis
(D) Dengue fever
Ans (d)

63. Standard deviation is a measure of
(A) Chance
(B) Deviation from mean valve
(C) Central tendency
(D) Deviation from median value
Ans (b)

64. Direct standardization is used to compare the mortality rates of two countries. This is done because of the difference in
(A) Cause of Death
(B) Age Distributions
(C) Socio Economic Conditions
(D) Health Service Differentials
Ans (b)

65. Human Development index includes all except
(A) Adult Literacy Rate
(B) Infant Mortality Rate
(C) Life Expectancy at Birth
(D) Combined Gross Enrolment Ratio
Ans (b)

66. First Referral Level in health system denotes.
(A) Primary health care
(B) Secondary health care
(C) Tertiary health care
(D) Superspecialist health care
Ans (b)

67. Identification of missed cases and supplementing the notified cases is done by
(A) Sentinel surveillance
(B) Screening
(C) Monitoring
(D) Epidemiological surveillance
Ans (a)

68. All the following dimensions are rates except one. Mark the one which is not a rate.
(A) Crude Death Rate
(B) Proportional Mortality Rate
(C) Infant Mortality Rate
(D) Survival Rate
Ans (b)

69. All are characteristics of common source single exposure epidemic curve except
(A) Curve rises and falls rapidly
(B) Clustering of cases in narrow interval
(C) Secondary waves
(D) Single peak
Ans (c)

70. Case control study measures all except
(A) Odds Ratio
(B) Relative Risk
(C) Exposure Rate
(D) Incident Rates
Ans (d)

71. Which is an antiseptic having sporocidal action ?
(A) Cataclon

(B) Halogens
(C) Chlorhexidine
(D) 70% alcohol
Ans (b)

72. The time between first possible point of diagnosis and the final critical diagnosis is called
(A) Screening time
(B) Generation time
(C) Lead time
(D) Serial interval
Ans (a)

73. In a highly prevalent disease, if the cut off point is lowered
(A) Sensitivity will increase
(B) Sensitivity will decrease
(C) Specificity will increase
(D) Specificity will decrease
Ans (a)

GUESS PAPER - 15

1. The valleys which drain in the same direction as the original consequent drainage but at the lower topographic levels and have developed with respect to new base levels are known as
(A) Resequent
(B) Obsequent
(C) Insequent
(D) Subsequent
Ans (a)

2. The concept of 'base level erosion' was proposed by
(A) Davis
(B) Malott
(C) Johnson
(D) Powell
Ans (d)

3. Given below are the two statements, one labelled as Assertion(A) and the other labelled as Reason (R). Assertion(A) : The velocity of moving ice increases with steepness of slope of the area and thickness of glacial ice.
Reason (R) : The velocity decreases to the sides owing to lesser depth of ice and friction against the valley walls and the bottom floor.
In the context of the above two statements, which one of the following is correct ?
(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.
Ans (b)

4. The normal cycle of erosion is associated with
(A) Marine erosion
(B) Wind erosion
(C) River erosion
(D) Glacial erosion
Ans (c)

5. Which of the following groups of scholars stressed the role of lateral erosion by streams in the formation of pediments ?
(A) Mc. Gee, Paige, Blackwelder
(B) Mc Gee, Blackwelder, Johnson
(C) Paige, Blackwelder, Johnson
(D) Paige, Johnson, Lawson
Ans (c)

6. Which of the following is not a topographic evidence of rejuvenation in landscape ?
(A) Incised meanders
(B) Structural benches
(C) Paired valley terraces
(D) Multi-cyclic valley
Ans (b)

7. Match list-I with list-II and select the correct answer from the codes given below :

List – I	List – II
(a) Loess	(i) river deposit
(b) Moraines	(ii) glacial deposit
(c) Gravels	(iii) wind deposit
(d) Silt	(iv) marine deposit

Codes :

	(a)	(b)	(c)	(d)
(A)	(i)	(ii)	(iv)	(iii)
(B)	(iii)	(ii)	(iv)	(i)
(C)	(iv)	(i)	(iii)	(ii)
(D)	(iii)	(iv)	(i)	(ii)

Ans (b)

8. Which of the following types of clouds appears at the highest level in the sky ?
(A) Alto – cumulus
(B) Cirro-cumulus
(C) Cumulo-nimbus
(D) Strato-cumulus
Ans (b)

9. Atmospheric temperature decreases with height in the troposphere because
(A) Air at higher altitude is less dense
(B) Solar radiation is less at higher level
(C) There are more atmospheric gases at higher altitudes
(D) The atmosphere is heated by radiation from the surface
Ans (d)

10. Which one of the following pairs is not correctly matched?
(A) Foehn   :   Warm dry winds moving down the Alps
(B) Mistral   :   Cold wind blowing from Alps over France
(C) Santa Ana :   Warm dry wind moving down Appalachian
(D) Bora   :   Cold winds experienced along the eastern coast of the Adriatic sea
Ans (c)

11. Which one of the following gases is not a natural element of the atmosphere ?
(A) Krepton
(B) Argon
(C) Chloroflurocarbon
(D) Water vapour
Ans (c)

12. In Koppen's classification of climate, the symbol Aw refers to

(A) Tropical Savanna climate
(B) Monsoon climate
(C) Tropical Rainforest climate
(D) Steppe climate
Ans (a)

13. The strongest winds in a hurricane are found in
(A) the eye of the hurricane
(B) the spiral bands of thunderstorm
(C) the eye wall of the hurricane
(D) the easterly waves
Ans (c)

14. Which one of the following characterizes paternoster lake ?
(A) A lake of volcanic origin
(B) A shallow stretch of water separated from the sea
(C) A crescent shaped lake formed due to cut-off of a river meander
(D) Lake formed on glacial stairways
Ans (b)

15. Thornthwaite's modified climatic classification is based on the concept of :
(A) Effective temperature
(B) Precipitation index
(C) Potential evapotranspiration
(D) Potential precipitation
Ans (c)

16. Selva forests are
(A) Broad leaf evergreen forests
(B) Broad leaf deciduous forests
(C) Coniferous evergreen forests
(D) Coniferous deciduous forests
Ans (a)

17. The specific place of an organism in an ecosystem is called as :
(A) Niche
(B) Autotroph
(C) Trophic level
(D) Food Pyramid
Ans (a)

18. Which of the following is referred to as producer in marine ecosystem ?
(A) Small fish
(B) Fungi
(C) Zooplanktons
(D) Phytoplankton
Ans (d)

19. Saline soils are the results of
A) very high precipitation and leaching of the soil
B) high rate of evaporation and very little leaching of the soil.
(C) high precipitation and very little leaching of the soil
(D) all the above
Ans (b)

20. "There is no holiday for vegetation – growth is rapid, uninterrupted and continuous." This statement applies to
(A) Taiga region
(B) Monsoon region
(C) Mediterranean region
(D) Rainy tropics
Ans (d)

21. The largest variety of plants and animals is found in the
(A) Temperate forests
(B) Monsoon forests
(C) Tropical forests
(D) Tropical grassland
Ans (c)

22. Which one of the following statements about salinity is notcorrect ?
(A) Salinity is directly related to precipitation
(B) There exists a direct relationship between the rate of evaporation and salinity
(C) Low salinity is found near the mouth of a river
(D) The salinity is highest at the tropics and decreases towards poles and equator
Ans (a)

23. The origin of the ocean currents is related to
(A) Gravitational force
(B) Winds
(C) Salinity and density
(D) All of the above
Ans (d)

24. Schaefer was in favour of :
(A) Exceptionalism
(B) Idiography
(C) Areal differentiation
(D) Scientific generalization
Ans (d)

25. Which of the following principles does not belong to logical positivism ?
(A) Principle of causation
(B) Structuralism
(C) Behaviourism
(D) Functionalism
Ans (d)

26. Which of the following matches is not correct ? Author Book
(A) William Bunge Theoretical Geography
(B) David Harvey Social Well being : A Spatial Perspective
(C) David Smith Human Geography : A Welfare Approach
(D) R. Peet Modern Geographical Thought
Ans (b)

27. The statement that "Egypt is the gift of the river Nile" is attributed to
(A) Aristotle
(B) Herodotus
(C) Strabo
(D) Seneca
Ans (b)

OPINION - EDITORIALS

BISON POPULATION ON THE RISE IN TRIPURA

C.S. Rajput

Located on the Indo-Bangladesh border, the Bison National Park within the Trishna sanctuary in Tripura's South district has seen a spurt in population of the endangered species following fencing of the border.

During a survey conducted in 2010, only 130 bisons were spotted in the core area of the Trishna sanctuary spread over more than 164 sq km. But this year the number has risen to 145, a forest official said.

The 30 sq km Bison reserve was established in Trishna sanctuary a few years ago with funds from the Centre to preserve and protect the endangered species of Bison, locally known as Gaba or Gaur, he said.

"The Bison reserve aims at ecological restoration of existing natural habitats and migratory route of bisons, promotion of measures for mitigation of man-animal conflict in crucial habitats and strengthening measures for protection of bisons from poachers," state Forest Minister Jitendra Chowdhury said.

Grass has been cultivated in major habitats of bison in the Trishna core area as well as the National Park area, the official said.

Recently plantation of one species of Bamboo, locally known as Kaillai, which is a favourite food of Bison has been started to meet the need of food during the lean period, the official said.

Meanwhile, 7 sq km area of the bison reserve has been fenced off, good grazing land developed and a watch tower recently constructed for tourists, the official said. Five more watch towers would be constructed in the area for tourists. This area, now covered with green grass, has emerged as natural grazing land for the bisons. It is known as Eden of Bisons.

Population of bison has been on the rise during last couple of years after the Indo-Bangla border adjoining the sanctuary was encircled with barbed wire fencing, the official said.

As many as nine new calves were noticed by the forest officials last month inside the core area, the official said. The minister said a few years ago poachers were very active and entered the sanctuary area from Bangladesh.

"However, the situation has changed and the population of the animal is increasing following erection of barbed wire fencing on the border line", the minister said.

Women Self Help Groups to get low interest loans

Low interest loans will be provided to over 25 lakh Women Self Help Groups across the country under a central programme launched to wipe out absolute poverty from the villages through women empowerment. Pursuant to the announcement made by Finance Minister P Chidambaram in the 2012-13 budget, the Union Cabinet, which met last week, has approved the provision of interest subvention to Women Self Help Groups, operating under National Rural Livelihood Mission (NRLM), enabling them to avail loans up to Rs 3 lakh at an interest rate of 7 per cent per annum. Giving the details today, Rural Development Minister Jairam Ramesh said the initiative, in the first phase, would focus on 150 backward districts, including the 82 Integrated Action Plan districts, affected by Naxal menace. "Today they are getting loans at 11.5 to 14 per cent rate of interest. In 150 districts, all women SHGs which are now getting bank loans at 11.5 to 14 per cent rate of interest will now get it at 7 per cent rate of interest," he said. The Women SHGs that repay loans in time will get additional three per cent subvention, reducing the effective rate to four per cent, the Minister said.

In the 150 districts, Central government will bear the entire cost of the interest subvention from the market rate to seven percent.

In 392 districts, a majority in north India, women SHGs will get loans at seven per cent rate of interest.

"Rural Development Ministry will bear its 75 per cent cost and states will bear 25 per cent. The cost involved is Rs 560 crore," he said.

Dealing with 81 districts in four South Indian states-Andhra Pradesh, Tamil Nadu, Karnataka and Kerala-separately, Ramesh said, "here also, Central government will bear 75 per cent cost and state governments will bear 25 per cent." He said a major chunk of bank lending for women SHGs goes to these four south Indian states.

Over 270,000 pedestrians killed each year: WHO

More than 270,000 pedestrians are killed on the world's roads each year, the World Health Organisation said on Thursday, slamming decades of neglect in favour of vehicle transportation. The UN health agency underlined that pedestrian victims make up 22 per cent of the total 1.24 million people killed annually in road traffic accidents around the globe. "More than 5,000 pedestrians are killed on the world's roads each week. This is because their needs have been neglected for decades, often in favour of motorised transport," said Etienne Krug, head of the WHO's injury prevention department. "We need to rethink the way we organise our transport systems to make walking safe and save pedestrian lives," he said in a statement. Pedestrians are among the most vulnerable road users, the WHO said.

It pointed to studies showing that males -- whether children or adults -- make up a high proportion of pedestrian deaths and injuries. In developed countries, older pedestrians are more at risk, while in low-income and middle-income countries, children and young adults are often affected. The proportion of pedestrians killed in relation to other road users is highest in Africa, at 38 per cent, and lowest in Southeast Asia, where the figure is 12 per cent. "We are all pedestrians, and governments should put in place measures to better protect all of us," said Oleg Chestnov, head of the WHO's non-communicable diseases and mental health division. "This will not only save lives, but create the conditions needed to make walking safe. When roads are safe, people will walk more, and this in turn will improve health and protect the environment," he added. The WHO recommends a mix of enforcement, engineering and education measures to improve pedestrian safety. They include boosting laws against speeding, drinking and driving, and mobile phone use at the wheel, as well as providing pavements, underpasses and decent road lighting, better public transport and improved design with soft vehicle fronts that reduce impact damage.

India elected member of SIAP governing council

India got elected to the governing council of the prestigious *Statistical Institute of Asia Pacific* (SIAP), one of the most active organs of the UN. In a keenly contested poll, 16 of the 41 member countries vied for the eight seats on the council. India and Australia were tied at 30 votes each. While, Indonesia and Korea got 26 votes, China received 26 while the Philippines, Russia and Thailand got 22 each. Pakistan got 20 and missed being on the governing council. The UN Statistical Institute for Asia and the Pacific (SIAP) was established in Tokyo in 1970 by 20 countries in Asia and the Pacific and the United Nations Development Programme (UNDP) as an international centre to bring about regional co-operation in training government statisticians from developing countries of the region. SIAP was accorded the legal status of a subsidiary body of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in 1995. SIAP governing council has a representative designated by the Government of Japan and eight representatives nominated by other members.

SIAP in brief

The Statistical Institute for Asia and the Pacific (former the Asian Statistical Institute) was established in May 1970 as a centre for statistical training in Asia and the Pacific. In April 1995, the Institute was accorded the status of a subsidiary body of the Economic and Social Commission for Asia and the Pacific (ESCAP) with the establishment of a Governing Council (earlier Board) which reviews the operations and endorses the annual and long-term programmes of work of the Institute.

Vision

SIAP's vision is to act as catalyst, stimulating economic and social development through building skills of statisticians.

Mission

To strengthen, through practically oriented training of official statisticians, the capability of the developing members and associate members and economies in transition of the region to collect, analyze and disseminate statistics as well as to produce timely and high quality statistics that can be utilized for economic and social development planning, and to assist those developing members and associate members and economies in transition in establishing or strengthening their statistical training capability and other related activities.

Strategies

SIAP and the Statistics Division of ESCAP

The results of the training programme of the Institute are contributing towards expected accomplishments of the ESCAP's statistics subprogramme. The Statistics Division and SIAP each has a distinct role to play in building national statistical capacity in Asia and the Pacific. SIAP provides and facilitates statistical training in the practical applications of the international standards and methodologies, focusing on areas where those standards are already established or well developed, while the Statistics Division focuses on technical cooperation, targeting areas with emerging international standards and methodologies. The roles of the Statistics Division and SIAP were outlined in a document entitled "ESCAP strategy for technical cooperation in statistics development" (E/ESCAP/CST/3 and Corr.1), which was submitted to the Committee on Statistics at its first session.

India to test fly heaviest rocket next year: ISRO

India's heaviest rocket ever is expected to take to the sky next January on an experimental flight whose later versions could be used to send humans on space missions. The mainstay of the Geosynchronous Satellite Launch Vehicle-Mark III (GSLV-Mk III) would be to put in orbit communication satellites weighing between four and five tonnes, thus packing more transponders per launch.

"We are targetting an experimental flight of GSLV-Mk III in January 2014," Indian Space Research Organisation (ISRO) Chairman K Radhakrishnan said after a public lecture at the Indian National Science Academy (INSA).

This will also be a first time that ISRO scientists would undertake an experimental flight of a launch vehicle which would fall into the sea after reaching a height of 120 km.

"We have been simulating the flight using computers. But there are certain tests that cannot be carried out on the ground. We will test the rocket in a cost effective manner," GSLV-Mk III's project director S Somnath said.

He said ISRO engineers have planned to take some 2,000 measurements during the experimental flight of the GSLV-Mk III, which would weigh 640 tonnes at lift-off, making it the heaviest rocket built in the country.

"All the 2000 measurements during the flight would be telemetered down to the ground station. We will analyse them. This will enable us to have full knowledge of the flight," Somnath said.

The new rocket, which can put a four tonne satellite in orbit, will help Antrix Corporation, ISRO's commercial arm, to offer cheapest space launches in the niche market. The GSLV-III or Geosynchronous Satellite Launch Vehicle mark III is a launch vehicle currently under development by the Indian Space Research Organization. It is intended to launch heavy satellites into geostationary orbit, and will allow India to become less dependent on foreign rockets for heavy lifting.

The rocket is the technological successor to the GSLV, however is not derived from its predecessor. The GSLV MK-1 had a Russian-made cryogenic third stage, this has been replaced with an Indian-built cryogenic stage for the GSLV MK-2. The GSLV MK-3 will have an indian built cryogenic stage.

FIIs pour in Rs 2,600cr in May; investment nears $12 bn in 2013

Overseas investors have pumped in a staggering Rs 2,600 crore (USD 483 million) in the Indian stock market during the first two trading sessions of the month amid political and economic worries. With this, the total foreign investor investments in the country's equity market has reached Rs 63,643 crore (USD 11.8 billion) since the beginning of 2013. During 2nd to 3rd May, foreign institutional investors (FIIs) were gross buyers of shares worth Rs 8,475 crore, while they sold equities amounting to Rs 5,869 crore, translating into a net inflow of Rs 2,606 crore (USD 483 million), according to the data available with market regulator SEBI.

Market experts said FII inflows in the Indian equities slowed last month because of a slew of factors such as profit- booking, concerns over high current account deficit (CAD) and political uncertainty.

FIIs had infused Rs 5,414 crore (about USD 1 billion) in the Indian equity market in April, the lowest in 16-months. "We have seen FIIs pumping in funds in the Indian equity market during the month (April), but they are concerned about various economic factors such as CAD touching a record high and political uncertainty," Geojit BNP Paribas Financial Services Ltd Head (Research) Alex Mathews said.

Apart from equity, FIIs have also poured in Rs 2,929 crore (USD 542 million) in the debt market during the month taking the total investment to Rs 21,007 crore (USD 39 billion) in the segment so far this year.

As on 3rd May, the number of registered FIIs in the country stood at 1,769 and total number of sub-accounts were at 6,383 during the same period.

28. Who among the following pleaded that history be treated geographically and geography be treated historically ?
(A) Homer
(B) Thales
(C) Hecataeus
(D) Herodotus
Ans (d)

29. Who among the following Arab scholars made corrections to Ptolemy's book ?
(A) Al-Masudi
(B) Al-Idrisi
(C) Ibn-Khaldun
(D) Ibn-Batuta
Ans (b)

30. Which one of the following is the philosophical basis of quantitative revolution ?
(A) Existentialism
(B) Idealism
(C) Phenomenology
(D) Positivism
Ans (d)

31. The concept of paradigm was propounded by
(A) Kant
(B) Peet
(C) Kuhn
(D) Haggett
Ans (c)

32. Who among the following wanted to develop 'Universal Science' encompassing all aspects of knowledge ?
(A) Humboldt
(B) Ritter
(C) Recluse
(D) Guyot
Ans (a)

33. Who among the following geographers, focussed on man centered geography ?
(A) W. H. Davis
(B) Jefferson
(C) Semple
(D) Huntington
Ans (b)

34. Who, among the following, developed the concept of mental map ?
(A) Downs and Stea
(B) Gould and White
(C) Saarinen
(D) Boulding and Hagerstrand
Ans (b)

35. Who among the following first initiated the concept of Second Demographic Transition ?
(A) Van de Kaa
(B) Lesthaeghe
(C) Coleman
(D) Fitzgerald
Ans (a)

36. The Age-Specific Fertility Rate is maximum in the age-group of
(A) 20-24 years
(B) 25-29 years
(C) 30-34 years
(D) 35-39 years
Ans (a)

37. Which one of the following reasons dominates in Rural to Urban migration in India ?
(A) Marriage
(B) Education
(C) Family movement
(D) Employment
Ans (d)

38. Who argued that multiple centres of nuclei were responsible for urban growth ?
(A) Harris and Ullman
(B) Hoyt
(C) Park and Burgess
(D) Nelson
Ans (a)

39. The largest and most dominating city in a State with respect to commercial, industrial, educational and political activities refers to :
(A) City Region
(B) Urbanfield
(C) Primate city
(D) Neckropolis
Ans (c)

40. Which one of the following sequences of land use in Burgess model is correct ?
(A) Central Business District, zone of workers' home, commuters' zone, zone of better residences
(B) Central Business District, zone of better residences, zone of workers' home, commuters' zone
(C) Central Business District, zone of workers' home, zone of better residences, commuters' zone
(D) Central Business District, zone of better residences, commuters' zone, zone of workers' home
Ans (c)

41. If a circle with 1 cm radius represents one lac population, what will be the radius of the circle representing 4 lac population ?
(A) 1 cm
(B) 2 cm
(C) 4 cm
(D) 16 cm
Ans (b)

42. The essential feature of shifting cultivation is
(A) Intensity of crops
(B) Rotation of fields
(C) Single cropping
(D) Double cropping
Ans (b)

43. The footloose industries are those for whom :
(A) Transportation costs are relatively unimportant
(B) Transport costs are very important
(C) Presence of raw material in the neighbourhood is necessary
(D) All of the above are necessary
Ans (a)

44. Match List-I with List-II and select the correct answer using codes given below :

List – I	List – II
(a) Malaysia	(1) Coffee
(b) Brazil	(2) Sugar
(c) Cuba	(3) Pineapple
(d) Hawai	(4) Rubber

Codes :

	(a)	(b)	(c)	(d)
(A)	(2)	(3)	(4)	(1)
(B)	(1)	(2)	(3)	(4)
(C)	(4)	(1)	(3)	(2)
(D)	(4)	(3)	(2)	(1)

Ans (c)

45. The three iron and steel plants at Kulti, Burnpur and Hirapur have been merged together as :
(A) Tata Iron and Steel Company
(B) Indian Iron and Steel Company
(C) Bengal Iron Works
(D) Mysore Iron Works
Ans (b)

46. The rice producing areas are associated with
(A) Low density of population
(B) Moderate density of population
(C) High density of population
(D) None of the above
Ans (c)

47. Match List-I with List-II and select the correct answer using the codes given below :

List – I (Stage of Urbanisation)	List – II (Explanation)
(a) Urbanisation	(i) Certain settlements grow at the cost of surrounding countryside
(b) Suburbanisation	(ii) The commuter belt grows at the cost the urban core
(c) Disurbanisation	(iii) The rate of population loss of the core tapers off or the core starts regaining population
(d) Reurbanisation	(iv) The population loss of the urban core exceeds the population gain of the commuter belt

Codes :

	(a)	(b)	(c)	(d)
(A)	(i)	(ii)	(iii)	(iv)
(B)	(i)	(ii)	(iv)	(iii)
(C)	(ii)	(iii)	(iv)	(i)
(D)	(iii)	(ii)	(i)	(iv)

Ans (b)

48. Which of the following statements about the consequences of migration is correct ?
(A) The population – resource relationship of the two areas involved in the process of migration gets modified significantly as a result of migration.
(B) The people who migrate from the rural areas to the urban industrial areas suffer from the lack of open space, fresh air and good housing.
(C) The dietary habits of emigrants also changes in new areas
(D) all of the above
Ans (d)

49. The informal sector of economy refers to
(A) Capitalist mode of economy
(B) Bazaar type of economy
(C) Dynamic and stable income
(D) Permanent and productive establishment
Ans (b)

50. Which one of the following is not related with informal sector of economy ?
(A) Market type of economy
(B) Unskilled/semiskilled labour force
(C) Temporary & unstable income
(D) Capitalist mode of economy
Ans (a)

51. The law of primacy in the context of urban development is most relevant to the countries which have :
(A) A relatively simple economy and spatial structure
(B) Complex economy
(C) Integrated spatial structure
(D) Matured economy
Ans (a)

52. The main occupation of the Gonds is
(A) Food gathering
(B) Forestry
(C) Hunting
(D) Cultivation
Ans (d)

53. Which one of the following is largest in areal extent ?
(A) Cultural realm
(B) Cultural region
(C) Cultural landscape
(D) Cultural point
Ans (a)

54. What among the following is the correct sequence of the three stages through which a new boundary under most conditions is determined ?
(A) Delimitation, demarcation, allocation
(B) Allocation, delimitation, demarcation
(C) Demarcation, delimitation, allocation
(D) Allocation, demarcation, delimitation
Ans (b)

55. Which one of the following is not usually considered an indicator of social well being ?
(A) Infant mortality
(B) Female literacy
(C) Availability of potable water
(D) Crime

56. Who among the following was an advocate of export based model ?
(A) Alonso
(B) Kuklinski
(C) Perroux
(D) North
Ans (d)

57. The Vale of Kashmir is the only level strip of land in the Himalayas.
Which river has laid its deposits to form this level plain?
(A) Ravi
(B) Sutlej
(C) Beas
(D) Jhelum
Ans (d)

58. In which of the following States of India women outnumber men ?
(A) Uttar Pradesh
(B) Karnataka
(C) Haryana
(D) Kerala
Ans (d)

59. Which one of the following States of India records the lowest density of population according to 2011 Census?
(A) Arunachal Pradesh
(B) Meghalaya
(C) Tripura
(D) Manipur
Ans (a)

60. About 85 percent of the total iron ore production of India is from :
(A) Jharkhand and Orissa
(B) Karnataka and Orissa
(C) Bihar and Madhya Pradesh
(D) Karnataka and Andhra Pradesh
Ans (b)

61. In the sub-continent of India, the region frequently affected by tropical cyclones is the
(A) Gujarat coast
(B) Coromandel coast
(C) Konkan coast
(D) Malabar coast
Ans (b)

62. Which of the following regions/areas is not affected by the monsoon of the Arabian Sea branch ?
(A) Western Ghat
(B) Deccan Plateau
(C) Madhya Pradesh
(D) Punjab Plain
Ans (d)

63. The heights of individual points on topographical maps are indicated by :
(A) Spot height only
(B) Benchmark only
(C) Triangulation point only
(D) All of the above
Ans (d)

64. The broadest part of the Himalayas lies in
(A) Himachal Pradesh
(B) Arunachal Pradesh
(C) Jammu & Kashmir
(D) Nagaland
Ans (c)

65. If point A is at 230 m and point B at 570 m elevations from mean sea level with a horizontal equivalent of 2.0 km, which one of the following gradients is correct between these two points ?
(A) 0.7 percent
(B) 7.0 percent
(C) 17.0 percent
(D) 27.0 percent
Ans (c)

66. Match List-I with List-II and select the correct answer using the codes given below :

List – I (Satellite)	List – II (Country)
(a) SPOT	(1) India
(b) GOES	(2) France
(c) Meteor-3	(3) Russia
(d) INSAT	(4) USA

Codes :

	(a)	(b)	(c)	(d)
(A)	2	4	3	1
(B)	2	4	1	3
(C)	4	2	3	1
(D)	4	2	1	3

Ans (a)

67. Which one of the following techniques is not suitable for showing urban population on the map ?
(A) Circles
(B) Divided circles
(C) Spheres
(D) Hachures
Ans (d)

68. Which one of the following statements is not correct ?
(A) Contour maps are isopleth maps.
(B) Isopleths are lines of equal value.
(C) Isopleth technique always takes administrative boundaries into account.
(D) Isopleth technique is suitable for continuous data.
Ans (c)

69. Consider the following statements and select the correct answer using the codes given below :
1. Deserts, marshes and hilly tracts are known as the negative areas of population.
2. Dot method is the best technique to show the distribution of population.
3. Dot method can be used to show age and sex composition.
4. The dot map cannot be transferred into isopleth.
Codes :
(A) only 1 and 3 are correct.
(B) 1, 2 and 3 are correct.
(C) 1, 2 and 4 are correct.

(D) 1, 2, 3 and 4 are correct.
Ans (c)

70. Which of the following is most suitable to show the unequality in the distribution ?
(A) Lorenz curve
(B) Bar graph
(C) Circle diagram
(D) Isopleth
Ans (a)

71. Which one of the following is the correct geometric mean of the data set : 0, 50, 100, 100, 150, 250, 450, 500?
(A) 125
(B) 100
(C) 200
(D) 0
Ans (d)

GUESS PAPER - 16

1. Percent of water on the world's surface representing fresh water is
(A) 97
(B) 50
(C) 10
(D) 3
Ans (d)

2. Concentration of CO_2 in present day atmosphere is
(A) ~ 220 ppm
(B) ~ 280 ppm
(C) ~ 360 ppm
(D) ~ 390 ppm
Ans (d)

3. Hardness of diamond is due to
(A) Coordinate bonding
(B) Covalent bonding
(C) Electrovalent bonding
(D) van der Waals forces
Ans (b)

4. In biological systems sulphur is largely bound in
(A) Lipids
(B) Proteins
(C) Nucleic acids
(D) Proteins and nucleic acids
Ans (b)

5. pH of 0.01 M HNO_3 is
(A) 0.1
(B) 1
(C) 2
(D) 10
Ans (c)

6. Which is a correct food chain in the Antarctic ecosystem?
(A) Phytoplankton – Krill –Carnivorous plankton – Emperor Penguin
(B) Phytoplankton – Krill –Carnivorous Plankton – Squid – Elephant Seal – Leopard Seal
(C) Phytoplankton – Herbivorous Zoo Plankton – Carnivorous Plankton – Adelic Penguin – Emperor Penguin
(D) Herbivorous Zoo Plankton – Phytoplankton – Carnivorous Plankton – Elephant Seal – Leopard Seal
Ans (b)

7. Given below are two statements, one labelled as Assertion(A) and the other labelled as Reason (R) :
Assertion(A) : The phosphorous cycle in an ecosystem is a sedimentary cycle.
Reason (R) : Phosphorous does not occur naturally as gas.
(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.
Ans (b)

8. Pyramid of trophic levels is always upright in case of
(A) Biomass
(B) Energy
(C) Number
(D) All of the above
Ans (b)

9. Which of the following is a correct match ?
(A) Periyar – Kerala
(B) Ranthambore – M.P.
(C) Panna – U.P.
(D) Bandhvgarh – Bihar
Ans (a)

10. Replacement of existing communities by any external condition is termed
(A) Primary succession
(B) Secondary succession
(C) Autogenic succession
(D) None of the above
Ans (b)

11. The area where two major communities meet and blend together is termed as
(A) Ecotype
(B) Biotype
(C) Ecotone
(D) Meeting place
Ans (c)

12. Indian wolf has become an important animal because
(A) It's name appears in Red Data Book.
(B) It is only an important member of food chain of almost all Indian forests.
(C) Wild dogs disappeared due to their presence.
(D) It has been chosen as a State animal.
Ans (a)

13. Walkley and Black rapid titration method is used for the determination of
(A) Organic carbon content of soil
(B) Nitrate content of soil
(C) Phosphate content of soil
(D) Fluoride content of soil
Ans (a)

14. Which one of the following is an endoenzyme in soil ?

(A) Cellulase
(B) Invertase
(C) Protease
(D) Dehydrogenase
Ans (d)

15. Of the following humic groups which is not soluble in both acid and alkali ?
(A) Fulvic acid
(B) Humic acid
(C) Humin
(D) All of the above
Ans (d)

16. The sources of thermal pollution are
(A) Power plants
(B) Cooling forests
(C) Industrial effluents
(D) All of the above
Ans (d)

17. Which one of the following radionuclides has the longest half life ?
(A) C 14
(B) Sr 90
(C) I 131
(D) Cs 137
Ans (d)

18. What is the importance of the 42ndAmendment to the Constitution brought in the year 1976 ?
(A) Insertion of Article 48-A
(B) Insertion of Article 51-A (g)
(C) Insertion of Article 48-A and 51-A (g)
(D) None of the above
Ans (c)

19. Who issues the Ecomark notification ?
(A) Ministry of Environment and Forest, Govt. of India
(B) Ministry of Human Health and Family Welfare, Govt. of India
(C) Department of Science and Technology, Govt. of India
(D) Bureau of Indian Standards
Ans (a)

20. Which one of the following is a waste recycling method of solid waste management ?
(A) Pelletisation
(B) Composting
(C) Incineration
(D) Sanitary Landfill
Ans (b)

21. A hazardous waste is characterised by
(A) Ignitibility
(B) Reactivity
(C) Toxicity
(D) All of the above
Ans (d)

22. How many hot spots have been identified in the world and Indian Subcontinent respectively ?
(A) 17, 2
(B) 12, 3
(C) 35, 2
(D) 17, 3
Ans (c)

23. Which one of the following chemical species of mercury is highly toxic to living system ?
(A) Mercurous ion
(B) Mercuric ion
(C) Organo mercurials
(D) Atomic mercury
Ans (c)

24. Natural gas is composed primarily of
(A) Methane
(B) n-butane
(C) n-octane
(D) A mixture of n-octane and nbutane
Ans (a)

25. Which of the following is true regarding the Leopold interaction matrix used in Environmental Impact Assessment Process ?
(A) It can be expanded.
(B) It can be contracted.
(C) It can be contracted and expanded.
(D) It cannot be contracted and expanded.
Ans (c)

26. Which of the following can be considered in Environmental Risk Assessment ?
(A) Exposure period
(B) Potency of a toxic material
(C) Quality of models
(D) All of the above
Ans (d)

27. In India, Environmental Impact Assessment report of a proposed river valley project after environmental clearance is applicable for a maximal period of how many years ?
(A) 5
(B) 10
(C) 30
(D) 2
Ans (b)

28. An earthquake is rated as 'major' if its magnitude in Richter Scale is in the range of
(A) 4.0 – 4.9
(B) 7.0 – 7.9
(C) 6.0 – 6.9
(D) 5.0 – 5.9
Ans (b)

29. What is the proportion of the frequency of occurrence of La Nina compared to El Nino ?
(A) Half
(B) One-third
(C) Twice
(D) Two-third
Ans (a)

30. An element in soil will be considered as a trace element if its concentration is
(A) 1 – 2 wt %
(B) < 0.1 wt %

(C) > 2 wt %
(D) < 1 wt %
Ans (b)

31. Which of the following is correct about attribute data in Geographic Information System ?
(A) Attributes are pieces of data that are connected or related to the points, lines or polygons mapped in the GIS.
(B) Attribute data can be analysed to determine patterns of importance.
(C) Attribute data is entered directly into a database where it is associated with element data.
(D) All of the above
Ans (d)

32. At Nadir, the LISS – IV camera in IRS-P6 has a spatial resolution of
(A) 5.8 m
(B) 5.9 m
(C) 5.7 m
(D) 5.6 m
Ans (a)

33. Which one of the following can be estimated by Flame Photometer ?
(A) Sodium and Potassium
(B) Cadmium and Cobalt
(C) Chlorine and Bromine
(D) Mercury and Arsenic
Ans (a)

34. The contribution of CO_2 towards global warming has been estimated to be about
(A) 57 – 60%
(B) 60 – 75%
(C) 80 – 85%
(D) 45 – 55%
Ans (a)

35. The principal components of photochemical smog in urban areas are
(A) SO_2 and NO_2
(B) SPM and CO
(C) SPM and NO_2
(D) Hydrocarbons and Ozone
Ans (d)

36. Match Lists – I and II and choose the correct answer from the codes given below :
List – I (Aerosol Constituents)
(i) Si
(ii) V
(iii) Benzo(a)pyrene
(iv) Sulfuric acid droplets
List – II (Sources)
1. Gases in the ambient atmosphere
2. Natural sources
3. Combustion of certain kinds of fuel oil
4. Incomplete combustion
Codes :

	(i)	(ii)	(iii)	(iv)
(A)	2	4	3	1
(B)	3	1	2	4
(C)	4	1	2	3
(D)	1	4	3	2

Ans (a)

37. Noise of 90 dB for 8 hours represents 100% dose. If the noise of 93 dB is for 1 hour duration, it represents a dose of
(A) 25%
(B) 50%
(C) 75%
(D) 100%
Ans (a)

38. Scale lengths associated with mesoscale phenomenon in atmosphere are typically in the range
(A) 10 – 500 m
(B) 1 – 200 km
(C) 100 – 1000 km
(D) 1000 – 10,000 km
Ans (b)

39. When an atmosphere has an isothermal profile, it is
(A) very stable
(B) slightly stable
(C) unstable
(D) very unstable (turbulent)
Ans (b)

40. The wavelength range of UV-C radiation is
(A) 320 – 400 nm
(B) 280 – 320 nm
(C) 100 – 1500 nm
(D) 240 – 280 nm
Ans (d)

41 Lightening in the atmosphere produces
(A) NO
(B) CO
(C) CO_2
(D) NH_3
Ans (a)

42. The maximum tidal energy potential in India is
(A) in Gulf of Khambhat
(B) in Gangetic delta in Sundarbans
(C) along the coast of Odisha
(D) along the coast of Chennai
Ans (a)

43. The maximum theoretical efficiency of a silicon solar cell can be
(A) 45%
(B) 30%
(C) 12%
(D) 50%
Ans (a)

GUESS PAPER - 17

1. In living organisms phosphorous is largely associated with
(A) Carbohydrate
(B) Lipids
(C) Nucleic acids

(D) Proteins

Ans (c)

2. **Which of the following habitats has not been included as Indian biodiversity hot spots ?**
(A) The Eastern Ghats
(B) The Western Ghats
(C) North-Eastern Hills
(D) South-Eastern Hills

Ans (d)

3. **The area of the biosphere which is protected entirely, without any experimentation and research and no biotic interference, is known as**
(A) Undisturbed zone
(B) Buffer zone
(C) Core zone
(D) Principal zone

Ans (c)

4. **When a mixture of Azospirillum, Azotobacter and Vibrio was applied to rhizosphere, fixation of atmospheric nitrogen was increased. It was due to activity of**
(A) All the three
(B) Azospirillum and Vibrio
(C) Azotobacter and Vibrio
(D) Azotobacter and Azospirillum

Ans (d)

5. **Which type of forests are found at an altitude of 5300 ft chiefly on mountains of Himalayas and Nilgiri ?**
(A) Dry deciduous forest
(B) Moist tropical forest
(C) Temperate forest
(D) Tropical moist deciduous forest

Ans (c)

6. **The sequence of events that occur during primary succession is as follows :**
(A) Nudation – Colonisation – Ecesis – Aggregation
(B) Aggregation – Colonization – Ecesis – Nudation
(C) Ecesis – Nudation – Aggregation – Colonization
(D) Nudation – Ecesis – Colonization – Aggregation

Ans (a)

7. **Which one of the following is an in situ method of biodiversity conservation ?**
(A) Reserve forest
(B) National parks
(C) Sanctuaries
(D) All the above

Ans (d)

8. **Match the contaminant in Column – I with the disease in Column – II :**

Column – I	Column – II
(i) Mercury	1. Methamoglobinemia
(ii) Nitrate Nitrogen	2. Itai Itai
(iii) Cadmium	3. Silicosis
(iv) Coal	4. Minamata

Choose the correct code :

	(i)	(ii)	(iii)	(iv)
(A)	2	3	4	1
(B)	3	4	2	1
(C)	1	2	3	4
(D)	4	1	2	3

Ans (d)

9. **Which of the following types of coal contains higher percentage of volatile matter ?**
(A) Peat
(B) Lignite
(C) Bituminous
(D) Anthracite

Ans (a)

10. **Carbon dioxide evolved from soil mainly comes from**
(A) Microbial respiration
(B) Root respiration
(C) Soil animals respiration
(D) All the above

Ans (a)

11. **Which one of the following pesticides persists for a long period in soil ?**
(A) Lindane
(B) Monocrotophos
(C) Carbaryl
(D) Parathion

Ans (a)

12. **Organic matter (OM) content of soil can be calculated from organic carbon (OC) by using the formula**
(A) OM (%) = OC (%) × 1.724
(B) OM (%) = OC (%) × 1.247
(C) OM (%) = OC (%) × 1.472
(D) OM (%) = OC (%) × 1.427

Ans (a)

13. **The problem of thermal pollution can be alleviated by using**
(A) Cooling ponds
(B) Cooling towers
(C) More efficient electricity generating plants
(D) All the above

Ans (d)

14. **According to Recycled Plastics (Manufacture and Usage) Rules 1999, the minimum thickness of carry bags shall not be less than**
(A) 10 microns
(B) 20 microns
(C) 30 microns
(D) 50 microns

Ans (b)

15. **Match the Act mentioned in Column – I with the year of enactment mentioned in Column – II :**

Column – I
(i) The Water (Prevention and Control of Pollution) Act
(ii) The Air (Prevention and Control of Pollution) Act
(iii) The Environmental (Protection) Act
(iv) The Biological Diversity Act

Column – II

1. 2002
2. 1986
3. 1974
4. 1981

Choose the correct code :

	(i)	(ii)	(iii)	(iv)
(A)	1	4	3	2
(B)	3	4	2	1
(C)	3	2	1	4
(D)	2	4	3	1

Ans (b)

16. **Which one of the following is not an energy recovery method of solid waste management ?**
(A) Pelletisation
(B) Biomethanation
(C) Pyrolysis
(D) Composting

Ans (d)

17. **The colour code of the container for collection of waste scrap generated from Hospitals is**
(A) Red
(B) Blue
(C) White
(D) Green

Ans (b)

18. **Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R) :**

Assertion(A) : When quantitative probabilistic risk assessment is performed on hazardous waste sites they usually turn out to be of relatively low threats.

Reason (R) : In hazardous waste sites the chance of exposure is low because of isolation of drinking water supplies and prevention of access.

Choose the correct answer :
(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.

Ans (a)

19. **In India, an Environment Impact Assessment report of a proposed mining project after environmental clearance is applicable for a maximal period of how many years ?**
(A) 5 years
(B) 10 years
(C) 30 years
(D) 2 years

Ans (c)

20. **An increase of one unit of Richter Scale represents an increase in amplitude by a factor of**
(A) 10
(B) 100
(C) 1000
(D) 2

Ans (a)

21. **Which rare earth element is not present in the earth's crust but for commercial purpose comes from the Nuclear reactors ?**
(A) Promethium
(B) Lanthanum
(C) Cerium
(D) Samarium

Ans (a)

22. **To display green colour in the monitor the amount of RGB should be**
(A) 255 : 0 : 0
(B) 255 : 255 : 255
(C) 0 : 0 : 0
(D) 0 : 255 : 0

Ans (d)

23. **When the temperature range in geothermal resource is generally low, electrical power generation from such resources require the use of secondary low boiling point fluid. This is generally known as**
(A) Rankine cycle
(B) Production well cycle
(C) Flash stem cycle
(D) Hard Dry Rock cycle

Ans (a)

24. **The Global Warming Potential (GWP) is the least for which of the following greenhouse gases ?**
(A) CH_4
(B) CO_2
(C) N_2O
(D) SF_6

Ans (b)

25. **Given below are two statements. One labelled as Assertion(A) and the other labelled as Reason (R) :**

Assertion(A) : Vegetation hedges are the best way to control noise.

Reason (R) : Vegetation hedges scatter noise.

Choose the correct answer.
(A) Both (A) and (R) are correct and (R) is the correct explanation of (A).
(B) Both (A) and (R) are correct, 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.

Ans (d)

26. **Which of the following techniques is most appropriate for determining crystalline structure of environmental samples ?**
(A) Infrared spectroscopy
(B) X-ray diffraction
(C) Microspectrophotometry
(D) Raman spectroscopy

Ans (b)

27. **Which one of the following is the most predominant element in a majority of igneous rocks ?**
(A) Al
(B) Fe
(C) O
(D) Si

Ans (c)

28. **Progressive increase in concentration of a xenobiotic compound when it passes through the food chain is called**
(A) Biomagnification
(B) Hyper accumulation
(C) Bioaccumulation
(D) None of the above

Ans (a)

29. **Highest level of biotic interaction is**
(A) Mutualism
(B) Predation
(C) Parasitism
(D) Amensalism

Ans (b)

30. **Which one of the following is considered as indicator of aquatic pollution ?**
(A) Rotifers
(B) Copepods
(C) Mysids
(D) Calanoids

Ans (a)

31. **Poorly nourished lakes are known as**
(A) Oligotrophic
(B) Eutrophic
(C) Mesotrophic
(D) Xerotrophic

Ans (a)

32. **Identify a sampling method which is not non-destructive.**
(A) Sub-surface coring
(B) Using of neutron probes to measure soil water
(C) Fourier transform infrared spectroscopy
(D) Time domain refractometry to measure soil water

Ans (a)

33. **The allochthonous microorganisms of an ecosystem are**
(A) Indigenous microorganisms
(B) Migrant
(C) Parasitic
(D) Pathogenic

Ans (b)

34. **The rate of evaporation of oil spilled into the sea depends on**
(A) The elemental concentration of sea water
(B) The composition of sea water microflora
(C) Composition of the crude oil
(D) The temperature of the sea

Ans (c)

35. **The most dangerous and heat resistant spoilage organism in canning industry is**
(A) Clostridium cellulolyticum
(B) Bacillus subtilis
(C) E.coli
(D) Clostridium botulinum

Ans (d)

36. **Oxygen concentrations in compost developed in static piles usually**
(A) Ten times lower than in ambient air
(B) Five times lower than in ambient air
(C) Two times more than in ambient air
(D) Five times more than in ambient air

Ans (b)

37. **Ultraviolet radiations are lethal due to inactivation of**
(A) Proteins, nucleic acids and pigments
(B) Minerals, water and air
(C) Carbohydrates, fats and vitamins
(D) O_2, CO_2 and water

Ans (a)

38. **The following are the characters of species diversity :**
(i) More richness
(ii) More evenness
(iii) More dominance
(iv) Less dominance
(v) Less richness
(vi) Less evenness

Point out the combination of conditions in which species diversity of an ecosystem will be more.
(A) (i), (ii) and (iii)
(B) (v), (ii) and (iii)
(C) (i), (ii) and (iv)
(D) (i), (vi) and (iv)

Ans (c)

39. **Given below are two statements, one labelled as Assertion(A) and the other labelled as Reason (R).**

Assertion(A) : If natality is greater than mortality, it leads to population explosion.

Reason (R) : The scientific study of various species of human population is called demography.

Choose the correct answer :
(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) Both(A) and (R) are false.

Ans (b)

40. **Match Column – I with Column – II :**

Column – I	*Column – II*
(i) Chipko Movement	1. Medha Patkar
(ii) Narmada Bacchao Andolan	2. Al Gore
(iii) Climate Change	3. Rachel Carson
(iv) Silent Spring	4. Sundarlal Bahuguna

Codes :

	(i)	(ii)	(iii)	(iv)
(A)	1	2	3	4
(B)	2	3	4	1
(C)	4	1	2	3
(D)	3	4	1	2

Ans (c)