

BGO(CBRT)

PROVISIONAL ANSWER KEY

Name of the post	Assistant Director/Regional Fire Officer, Class-1 under the Directorate of Gujarat State Fire Prevention Service
Advertisement No.	46/2023-24
Preliminary Test held	08-11-2023
Question No.	001-300
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Last Date to Send Suggestion(s) 14-11-2023

THE LINK FOR ONLINE OBJECTION SYSTEM WILL START FROM 10-11-2023; 04:00 PM ONWARDS

Instructions / સૂચન

Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -

- (1) All the suggestion should be submitted through **ONLINE OBJECTION SUBMISSION SYSTEM** only. Physical or submission through E- Mail of suggestions will not be considered.
- (2) Question wise suggestion to be submitted in the prescribed format (proforma) published on the website / online objection submission system.
- (3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website / online objection submission system. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.
- (4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.
- (5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet /response sheet and submitted suggestions are differed.
- (6) Objection for each question should be made on separate sheet. Objection for more than one question in single sheet shall not be considered.

ઉમેદવારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં

- (1) ઉમેદવારે વાંધા-સૂચનો ફક્ત ઓનલાઇન ઓબ્જેક્શન સબમીશન સીસ્ટમ દ્વારા જ સબમીટ કરવાના રહેશે. રૂબરૂ અથવા ટપાલ અથવા ઇ-મેઇલ દ્વારા આયોગની કચેરીએ મોકલવા આવેલ વાંધા-સૂચનો ધ્યાને લેવામા આવશે નહીં જેની ખાસ નોંધ લેવી.
- (2) ઉમેદવારે વાંધા-સૂચનો રજૂ કરવા વેબસાઇટ / ઓનલાઇન ઓબ્જેક્શન સબમીશન સીસ્ટમ પર પ્રસિધ્ધ થયેલ નિયત નમૂનાનો જ ઉપયોગ કરવો.
- (3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઇટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.
- (4) માસ્ટર પ્રશ્નપત્રમાં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચનો ધ્યાને લેવામાં આવશે નહીં.
- (5) ઉમેદવારે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદવારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઈએ. ઉમેદવારે સૂચવેલ જવાબ અને ઉત્તરવહીનો જવાબ ભિન્ન હશે તો ઉમેદવારે રજૂ કરેલ વાંધા-સૂચનો ધ્યાનમા લેવાશે નહીં.
- (6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચનો પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

Website link for online objection submission system : <http://gpsc.safevaults.in/login/>

001. નીચેના પૈકી કયું સ્થળ તાંબાની ખાણ માટે પ્રખ્યાત છે ?
 (A) ખેત્રી (Khetri) (B) કેઓન્જહાર (Keonjhar)
 (C) ગયા (Gaya) (D) સતના (Satna)
002. નીચેના પૈકી કયો પાક એ ખરીફ પાકનું ઉદાહરણ છે ?
 (A) ચણ (Gram) (B) કપાસ (Cotton)
 (C) વટાણા (Pea) (D) ઘઉં (Wheat)
003. એ પૃથ્વીના ચુંબકીય ક્ષેત્ર માટે જવાબદાર છે.
 (A) પ્રાવાર આવરણ (Mantle) (B) ભૂપટલ (Crust)
 (C) બાહ્ય ગર્ભ (Outer core) (D) અંતઃ ગર્ભ (Inner core)
004. માળવાનો ઉચ્ચ પ્રદેશ એ ભારતમાં નીચેના પૈકી કયા રાજ્યોમાં વિસ્તરેલો છે ?
 1. મધ્ય પ્રદેશ 2. ગુજરાત 3. રાજસ્થાન 4. મહારાષ્ટ્ર
 નીચે આપેલા કોડ પૈકી યોગ્ય કોડ પસંદ કરો.
 (A) માત્ર 1 અને 2 (B) માત્ર 1, 2 અને 3
 (C) 1, 2, 3 અને 4 (D) માત્ર 1, 2 અને 4
005. તાજેતરમાં જ સમાચારમાં આવેલ ગરવી ગુજરાત ભવન એ કયા શહેરમાં સ્થિત છે ?
 (A) ચંદીગઢ (B) નવી દિલ્હી
 (C) ગાંધીનગર (D) અમદાવાદ
006. કયાદારા (Kayadara)ના યુદ્ધમાં ગુજરાતના ચાલુક્ય શાસક ભીમદેવ બીજા એ નીચેના પૈકી કયા રાજાને હરાવ્યા હતા ?
 (A) મહંમદ ગઝની (B) મહંમદ ઘોરી
 (C) અલાઉદ્દીન હુસેન (D) ધીયાઉદ્દીન
007. નીચેના પૈકી કયા મુઘલ શાસકે બ્રીટીશર્સને બંગાળ, હૈદરાબાદ અને ગુજરાતના રાજ્ય પ્રદેશોમાં કરમુક્ત વ્યાપાર કરવાની પરવાનગી આપી ?
 (A) મહંમદ શાહ (B) ઔરંગઝેબ
 (C) બહાદુર શાહ (D) ફરુખ સિયાર
008. ગુજરાતમાં 'પીપાવાવ'એ નીચેના પૈકી શેના માટે જાણીતું છે ?
 (A) ભારતનું સૌ-પ્રથમ અંગત-માલિકીનું બંદર (B) ભારતની સૌ-પ્રથમ ગ્રીન ફીલ્ડ રીફાઈનરી
 (C) ભારતનું સૌ-પ્રથમ શીપ બ્રેકીંગ યાર્ડ (D) ભારતનું સૌ-પ્રથમ ફૂટબોલ સ્ટેડીયમ
009. ડેરી એ આર્થિક પ્રવૃત્તિના કયા ક્ષેત્ર હેઠળ આવે છે ?
 (A) તૃતીય ક્ષેત્ર (B) પ્રથમ ક્ષેત્ર
 (C) દ્વિતીય ક્ષેત્ર (D) ચતુર્થ ક્ષેત્ર
010. આયોજન પંચની સ્થાપના કયારે થઈ હતી ?
 (A) 2019 (B) 2000
 (C) 1947 (D) 1950

001. Which of the following places is famous for a copper mine?
(A) Khetri (B) Keonjhar
(C) Gaya (D) Satna
002. Which of the following crops is an example of Kharif Crops?
(A) Gram (B) Cotton
(C) Pea (D) Wheat
003. The _____ is responsible for Earth's magnetic field.
(A) Mantle (B) Crust
(C) Outer core (D) Inner core
004. The Malwa Plateau spreads in which of the following states of India?
1. Madhya Pradesh 2. Gujarat 3. Rajasthan 4. Maharashtra
Select the correct option from the codes given below:
(A) 1 and 2 Only (B) 1, 2 and 3 Only
(C) 1, 2, 3 and 4 (D) 1, 2 and 4 Only
005. Garvi Gujarat Bhavan, which is in the news recently, is located in which city?
(A) Chandigarh (B) New Delhi
(C) Gandhinagar (D) Ahmedabad
006. Chalukya ruler of Gujarat, Solanki Bhima II, defeated which of the following kings at the battle of Kayadara?
(A) Mahmud of Ghazni (B) Muhammad Ghori
(C) Alauddin Hussain (D) Ghiyath ud-din
007. Which of the following Mughal emperors granted permission to Britishers to trade free of tax in the territories of Bengal, Hyderabad, and Gujarat?
(A) Muhammad Shah (B) Aurangzeb
(C) Bahadur Shah (D) Farrukhsiyar
008. "Pipavav" in Gujarat is best known for which among the following?
(A) India's first private port (B) India's first Greenfield refinery
(C) India's first ship breaking yard (D) India's first football stadium
009. Dairy comes under which sector of economic activity?
(A) Tertiary sector (B) Primary sector
(C) Secondary sector (D) Quaternary sector
010. When was the Planning Commission set up?
(A) 2019 (B) 2000
(C) 1947 (D) 1950

011. UNESCO એ નીચેના પૈકી કયા તહેવારને અમૂર્ત (intangible) સાંસ્કૃતિક વારસા તરીકે ગણેલ છે ?
 (A) ગુડી પડવા (B) દશેરા
 (C) નવરોઝ (D) વૈશાખી
012. નીચે વિવિધ રાજ્યોના નૃત્યની યાદીની જોડી આપેલ છે. યોગ્ય જોડી શોધો.
 (A) કેરળ – ધુમર નૃત્ય (B) મહારાષ્ટ્ર – લાવણી
 (C) મધ્યપ્રદેશ – ડોલ્લુ કુનીથા (D) અરુણાચલ પ્રદેશ – બિહુ નૃત્ય
013. ભારતના નીચેના પૈકી કયા રાજ્યમાં મોએત્સુ (Moatsu) તહેવારની ઉજવણી કરવામાં આવે છે ?
 (A) નાગાલેન્ડ (B) ત્રિપુરા
 (C) આસામ (D) પશ્ચિમ બંગાળ
014. વિષ્ણુનો પાંચમો અવતાર તરીકે જાણીતો છે.
 (A) વરાહ (B) કૃષ્ણ
 (C) વામન (D) નરસિંહ
015. બંધારણીય સુધારા દાખલ કરવાનો અબાધિત અધિકાર નીચેના પૈકી કોની પાસે રહેલો છે ?
 (A) ભારતની સર્વોચ્ચ અદાલત (B) ભારતનું સાંસદ
 (C) ભારતના રાષ્ટ્રપતિ (D) સંઘ મંત્રી મંડળ
016. બંધારણી (103માં સુધારા) અધિનિયમ 2019 બાબતે નીચેના વિધાનો ધ્યાનમાં લો.
 1. આ સુધારા અધિનિયમ અંતર્ગત ભારતના બંધારણમાં ‘આર્થિક રીતે નબળા વર્ગો’ શબ્દ દાખલ કરવામાં આવ્યો.
 2. ‘આર્થિક રીતે નબળા વર્ગો’ (EWS) હેઠળની અનામત એ ભારતના બંધારણની કલમ 30(1) અંતર્ગત લઘુમતી શૈક્ષણિક સંસ્થાઓને પણ લાગુ પડશે.
 ઉપરના પૈકી કયું વિધાન/કયા વિધાનો સત્ય છે ?
 (A) માત્ર 1 (B) માત્ર 2
 (C) 1 તથા 2 બન્ને (D) ઉપરોક્ત પૈકી એક પણ નહીં
017. આ જોગવાઈ સમગ્ર દેશ માટે એક જ કાયદાની જોગવાઈ કરશે, જે તમામ ધાર્મિક સમુદાયોને તેમની અંગત બાબતો જેમ કે લગ્ન, છૂટાછેડા, વરસાઈ, દત્તક ગ્રહણ વગેરેમાં લાગુ પડશે.
 ઉપરોક્ત બાબત એ રાજ્યનીતિના નીચેના પૈકી કયા માર્ગદર્શક સિદ્ધાંત સાથે સૌથી વધુ યોગ્ય રીતે સંબંધિત છે ?
 (A) કલમ 44 (B) કલમ 45
 (C) કલમ 46 (D) કલમ 47
018. Treasury Bill (તિજોરી બિલ) વિશે નીચેના પૈકી કયું વિધાન સાચું નથી ?
 (A) તે અત્યંત રોકડ અને ખાતરીપૂર્વકની ઉપજ છે.
 (B) તે લઘુત્તમ રૂા. 25000 ની રકમમાં અને તેના ગુણાંકમાં ઉપલબ્ધ છે.
 (C) તે કસુરનું (default)નું વધુ જોખમ ધરાવે છે.
 (D) તે વચન પત્ર (Promissory note) ના સ્વરૂપમાં જારી કરવામાં આવે છે.

011. Which of the following is inscribed in the UNESCO as an intangible cultural heritage?
- (A) Gudi Padwa (B) Dussehra
(C) Nowruz (D) Vaisakhi
012. Given below are a few dance forms belonging to different states, pick the correct pair?
- (A) Kerala - Ghumura Dance (B) Maharashtra - Lavani
(C) Madhya Pradesh - Dollu Kunitha (D) Arunachal Pradesh - Bihu dance
013. In which of the following states of India is the Moatsu festival celebrated?
- (A) Nagaland (B) Tripura
(C) Assam (D) West Bengal
014. The fifth incarnation of Vishnu is known as _____
- (A) Varah (B) Krishna
(C) Vamana (D) Narsingh
015. Who among the following reserves the right to initiate the Constitutional Amendment?
- (A) Supreme Court of India (B) Parliament of India
(C) President of India (D) Union council of ministers
016. Consider the following statements regarding the Constitution (103rd Amendment) Act, 2019:
1. The Term “economically weaker sections” has been inserted in the Constitution of India through this amendment act.
 2. The reservation to “economically weaker sections” (EWS) will also apply to minority educational institutions under Article 30 (1) of the Indian Constitution.
- Which of the statement(s) given above is/ are correct?
- (A) Only 1 (B) Only 2
(C) Both 1 and 2 (D) None of the above
017. The provision would provide for one law for the entire country, applicable to all religious communities in their personal matters such as marriage, divorce, inheritance, adoption etc. The above description most appropriately is related to which of the following Directive Principles of State Policy?
- (A) Article 44 (B) Article 45
(C) Article 46 (D) Article 47
018. Which of the following statements is not true with regard to Treasury bills?
- (A) They are highly liquid and have assured yield
(B) They are available for a minimum amount of ₹ 25,000 and in multiples thereof.
(C) They carry a high risk of default.
(D) Are issued in the form of a promissory note.

019. કટોકટીની જોગવાઈઓ બાબતે નીચેના પૈકી કયું વિધાન સાચું નથી ?
 (A) કટોકટી દરમ્યાન કેન્દ્ર સરકાર સર્વોપરી બને છે અને રાજ્ય એ કેન્દ્રના સંપૂર્ણ નિયંત્રણ હેઠળ આવે છે.
 (B) વિશ્વના મોટા ભાગના ઉદાર (liberal) લોકશાહી બંધારણમાં અનાપેક્ષિત પરિસ્થિતિઓને પહોંચી વળવા કટોકટીની જોગવાઈઓ છે.
 (C) બંધારણ ત્રણ પ્રકારની કટોકટીઓ સુનિશ્ચિત કરે છે.
 (D) કટોકટી દરમ્યાન બંધારણનું સમવાય સ્વરૂપ અસ્તિત્વમાં રહેતું નથી.
020. નીચેના પૈકી કઈ કલમ એ કેન્દ્ર અને રાજ્યો વચ્ચે વ્યવસાયના સરળ સંક્રમણ અને વિવાદોના નિરાકરણ માટે આંતર-રાજ્ય પરિષદની સ્થાપના માટેની જોગવાઈ કરે છે ?
 (A) કલમ 248 (B) કલમ 253
 (C) કલમ 263 (D) કલમ 280
021. પંચાયતો (અનુસૂચિત ક્ષેત્રોનું વિસ્તરણ) અધિનિયમ 1996ની જોગવાઈઓ સંબંધિત નીચેના નિવેદનોને ધ્યાનમાં લો.
 1. આ અધિનિયમ એ માત્ર પાંચમા અનુસૂચિત વિસ્તારોને લાગુ પડે છે.
 2. તે પ્રત્યેક પંચાયતમાં અનુસૂચિત જનજાતિ માટે એક તૃતીયાંશ બેઠકોના અનામતની જોગવાઈ કરે છે.
 3. તે જિલ્લા સ્તરે પંચાયતમાં પ્રતિનિધિત્વ ન હોય ત્યાં અનુસૂચિત જનજાતિને નામાંકિત કરવાની સત્તા રાજ્યપાલને આપે છે.
 ઉપરના પૈકી કયું વિધાન / કયા વિધાનો સાચા નથી ?
 (A) માત્ર 1 (B) માત્ર 2
 (C) માત્ર 2 અને 3 (D) 1, 2 અને 3
022. ભારતના બંધારણમાં માન્યતા આપવા બાબતે નીચેના વિધાનો ધ્યાનમાં લો.
 1. માત્ર ધાર્મિક લઘુમતીઓને
 2. માત્ર ભાષાકીય લઘુમતીઓને
 3. ધાર્મિક અને ભાષાકીય લઘુમતીઓને
 4. ધાર્મિક ભાષાકીય અને વંશીય લઘુમતીઓ
 ઉપરના પૈકી કયું વિધાન / કયા વિધાનો સત્ય છે ?
 (A) માત્ર 1 (B) માત્ર 3
 (C) માત્ર 2 (D) માત્ર 4
023. આયોજન પંચ (હવે NITI આયોગ)ના અધ્યક્ષ છે.
 (A) વડાપ્રધાન (B) ભારતીય રીઝર્વ બેન્કના ગવર્નર
 (C) ભારતીય સ્ટેટ બેન્કના અધ્યક્ષ (D) NABARD ના અધ્યક્ષ
024. રાજ્ય માનવાધિકાર આયોગના અધ્યક્ષ અને અન્ય સદસ્યોની નિમણૂંક કોણ કરે છે ?
 (A) ભારતના રાષ્ટ્રપતિ (B) વડાપ્રધાન
 (C) રાજ્યપાલ (D) મુખ્યમંત્રી
025. ભારતના બંધારણની 11મી અનુસૂચિ બાબતને સંબંધિત છે.
 (A) પંચાયતી રાજ (B) નગરપાલિકા
 (C) કેન્દ્ર રાજ્ય સંબંધો (D) ઉપરોક્ત પૈકી એક પણ નહીં

019. Which of the following statements is incorrect with reference to the Emergency provisions?
- (A) During an Emergency, the Central government becomes all-powerful and the states go into total control of the Centre.
- ☒ (B) Most of the liberal democratic constitutions in the world contained the provisions of emergency to meet unforeseen situations.
- (C) The Constitution stipulates three types of emergencies.
- (D) The federal character of the Constitution is destroyed during an emergency.
020. Which of the following provides for the establishment of an Inter-State Council for smooth transition of business between the Union and states and resolution of disputes?
- (A) Article 248 (B) Article 253
- ☒ (C) Article 263 (D) Article 280
021. Consider the following statement regarding the Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996?
1. This act is applicable only to the fifth scheduled areas.
 2. It reserves one-third of the seats for the Scheduled Tribes in every Panchayat.
 3. It empowers the governor to nominate Scheduled Tribes which have no representation in panchayat at the district level.
- Which of the statements given above is/are incorrect?
- (A) 1 only (B) 1 and 2 only
- ☒ (C) 2 and 3 only (D) 1, 2 and 3
022. The constitution of India recognizes
1. Only religious minorities
 2. Only linguistic minorities
 3. Religious and linguistic minorities
 4. Religious, linguistic and ethnic minorities
- Which of the above statements is/are correct?
- (A) 1 only ☒ (B) 3 only
- (C) 2 only (D) 4 only
023. The Chairman of the Planning Commission (now NITI Aayog) is _____.
- ☒ (A) The Prime Minister (B) Governor, Reserve Bank of India
- (C) Chairman, State Bank of India (D) Chairman, NABARD
024. Who appoints chairperson and other members of the State Human Rights Commission?
- (A) President of India (B) Prime Minister
- ☒ (C) Governor (D) Chief Minister
025. 11th schedule of the Constitution of India is related to
- ☒ (A) Panchayati Raj (B) Municipality
- (C) Centre state relations (D) None of them

026. ભારતના બંધારણ અનુસાર, રાજ્યનીતિના માર્ગદર્શક સિદ્ધાંતો હેઠળની માર્ગદર્શક સૂચનાઓ...
- (A) કાયદાની કોઈપણ અદાલત દ્વારા લાગુ કરી શકાય છે.
(B) કાયદાની કોઈપણ અદાલત દ્વારા લાગુ કરી શકાતી નથી.
 (C) ન્યાયપંચ (Tribunals) દ્વારા લાગુ કરી શકાય છે.
 (D) અદાલતોના નિર્દેશ પર લાગુ કરી શકાય છે.
027. નીચેના પૈકી કયો કર એ પરોક્ષ કરવેરાના સ્વરૂપનું ઉદાહરણ નથી ?
- (A) વેચાણ વેરો (B) સીમા શુલ્ક
 (C) ઉત્પાદન શુલ્ક **(D)** આવક વેરો
028. ચૂંટણીપંચના વડા એ દ્વારા નીમવામાં આવે છે.
- (A) કેન્દ્ર સરકાર (B) રાજ્ય સરકાર
 (C) ભારતના મુખ્ય ન્યાયમૂર્તિ **(D)** ભારતના રાષ્ટ્રપતિ
029. બંધારણની કઈ કલમમાં કેન્દ્ર અને રાજ્યોના જાહેર સેવા આયોગ અંગેની જોગવાઈઓનો ઉલ્લેખ કરવામાં આવેલ છે ?
- (A) કલમ 340 **(B)** કલમ 315
 (C) કલમ 328 (D) કલમ 238
030. નીચેના પૈકી સમિતિની ભલામણોથી કેન્દ્રીય સતર્કતા આયોગની સ્થાપના કરવામાં આવી હતી ?
- (A)** સંથનામ સમિતિ (B) દિનેસ ગોસ્વામી સમિતિ
 (C) તરકુંડે સમિતિ (D) નરસિંહમ સમિતિ
031. ઝીંગ કાર્બોનેટ અને હાયડ્રસ ઝીંક સિલીકેટના કુદરતી સંમિશ્રણ ખનીજનું સર્વસામાન્ય (common name) નામ નીચેનામાંથી કયું છે ?
- (A) બોરેક્ષ **(B)** કેલામાઈન
 (C) ચોક (D) બેન્ઝોલ
032. કયો એસિડ શુક્રના વાતાવરણમાં જાડા સફેદ અને પીળાશ પડતા વાદળો બનાવે છે ?
- (A)** સલ્ફ્યુરિક એસિડ (B) નાઈટ્રીક એસિડ
 (C) એસીટીક એસિડ (D) હાઈડ્રોક્લોરિક એસિડ
033. રીબોઝોમ્સ એ માટેના સ્થાન છે.
- (A)** પ્રોટીન સંશ્લેષણ (B) પ્રકાશ સંશ્લેષણ
 (C) ચરબીના સંશ્લેષણ (D) શ્વસન
034. ગતિમાં રહેલી બસ જ્યારે એકાએક થોભી જાય છે ત્યારે તેમાં રહેલો મુસાફર આગળ ધકેલાય છે. આ હકીકત શેના દ્વારા સમજી શકાય છે ?
- (A)** ન્યૂટનના પ્રથમ નિયમ દ્વારા (B) ન્યૂટનના બીજા નિયમ દ્વારા
 (C) ન્યૂટનના ત્રીજા નિયમ દ્વારા (D) વેગમાન સંરક્ષણના સિદ્ધાંત દ્વારા
035. 1.5 વક્રીભવનાંક ધરાવતા કાચના બનેલા દ્વિ બહિર્ગોળ લેન્સની સામે 10 સેમીના અંતરે એક વસ્તુ મૂકવામાં આવેલ છે. બન્ને લેન્સની વક્તા ત્રિજ્યા 20 સેમી છે. આ વસ્તુનું પ્રતિબિંબ ક્યાં રચાશે ?
- (A) – 35 સેમી (B) 10 સેમી
(C) – 20 સેમી (D) 20 સેમી

026. Under the schemes of Indian Constitution, the Directives under the Directive Principles of State Policy
(A) are enforceable by any court of law
☒ (B) are not enforceable by any court of law
(C) are enforceable by the tribunals
(D) are enforceable at the direction of courts
027. Which of the following is NOT an example of the indirect form of taxation?
(A) Sales tax (B) Custom Duty
(C) Excise Duty ☒ (D) Income Tax
028. The Chief of Election Commission is appointed by the _____.
(A) Central Government (B) State Government
(C) Chief Justice of India ☒ (D) President of India
029. In which Article of the Constitution is there the provision of Public Service Commissions for the Union and the States?
(A) Article 340 ☒ (B) Article 315
(C) Article 328 (D) Article 238
030. The Central Vigilance Commission was established on the recommendation of which one of the following Committees?
☒ (A) Santhanam Committee (B) Dinesh Goswami Committee
(C) Tarkunde Committee (D) Narasimham Committee
031. Which of the following is the common name of a natural admixture mineral of zinc carbonate and hydrous zinc silicate?
(A) Borax ☒ (B) Calamine
(C) Chalk (D) Benzol
032. Which acid makes the atmosphere of Venus have thick white and yellowish clouds?
☒ (A) Sulphuric acid (B) Nitric acid
(C) Acetic acid (D) Hydrochloric acid
033. Ribosomes are sites for
☒ (A) Protein synthesis (B) Photosynthesis
(C) Fat synthesis (D) Respiration
034. A passenger in a moving bus is thrown forward when the bus suddenly stops. This is explained
☒ (A) by Newton's first law (B) by Newton's second law
(C) by Newton's third law (D) by the principle of conservation of momentum
035. An object is placed at a distance of 10 cm in front of a double convex lens made of glass of refractive index 1.5. Both the radii of curvature of the lens are 20 cm in magnitude. What is the position of the image formed?
(A) -35 cm (B) 10 cm
☒ (C) -20 cm (D) 20 cm

036. રૂધિરના જામવાની ક્રિયામાં નીચેના પૈકી કોણ સહાયરૂપ બને છે ?
 (A) વિટામીન A (B) વિટામીન D
 (C) વિટામીન K (D) ફોલિક એસિડ
037. જમીનના કણોની નાનાથી મોટા કદની ગોઠવણીના સંદર્ભમાં નીચે આપેલા ક્રમ પૈકી કયો ક્રમ યોગ્ય છે ?
 (A) કાંકરી, કાંપ, માટી, રેતી (Gravel, silt, clay, sand)
 (B) કાંકરી, રેતી, કાંપ, માટી (Gravel, sand, silt, clay)
 (C) કાંપ, માટી, કાંકરી, રેતી (Silt, clay, gravel, sand)
 (D) માટી, કાંપ, રેતી, કાંકરી (Clay, silt, sand, gravel)
038. વિશ્વ વન્યજીવ સપ્તાહ ક્યારે ઉજવવામાં આવે છે ?
 (A) સપ્ટેમ્બરના પ્રથમ સપ્તાહમાં (B) સપ્ટેમ્બરના છેલ્લા સપ્તાહમાં
 (C) ઓક્ટોબરના પ્રથમ સપ્તાહમાં (D) ઓક્ટોબરના છેલ્લા સપ્તાહમાં
039. શિક્ષણના ક્ષેત્રમાં ICTના મહત્વના યોગદાન પૈકીનું એક છે.
 (A) વર્કલોડ સરળતાથી ઉપલબ્ધ કરવો (B) પુસ્તકો સરળતાથી ઉપલબ્ધ કરવો
 (C) શિખવાની પ્રક્રિયાને સરળતાથી ઉપલબ્ધ કરવી (D) શિક્ષણની ક્રિયાને સરળતાથી ઉપલબ્ધ કરવી
040. IP એડ્રેસ કેટલા bits નું બનેલું હોય છે ?
 (A) 32 (B) 24
 (C) 16 (D) 12
041. નેશનલ ક્લાઈમેન્ટ કોન્કલેવ 2023 કયા શહેરમાં યોજાઈ હતી ?
 (A) ભોપાલ (B) લખનૌ
 (C) મુંબઈ (D) અમદાવાદ
042. RBI એ જૂન 29, 2023ની અસરથી કઈ સહકારી બેન્કનું બેન્કીંગ લાયસન્સ રદ કર્યું છે અને તેને એક બિન-બેન્કીંગ સંસ્થા તરીકે કાર્યરત રહેવા સૂચના જારી કરે છે ?
 (A) અનંત લક્ષ્મી સહકારી બેન્ક (B) મહાલક્ષ્મી સહકારી બેન્ક
 (C) કોસ્મોસ સહકારી બેન્ક (D) અભ્યુદય સહકારી બેન્ક
043. કેન્દ્રીય અન્વેષણ બ્યુરો (Central Bureau of Investigation) (CBI) ના વિશેષ નિર્દેશક તરીકે નીચેના પૈકી કોની નિમણૂક કરવામાં આવી છે ?
 (A) પ્રવીણ સૂદ (B) અજય ભટનાગર
 (C) શરદ અગ્રવાલ (D) અનુરાગ જોશી
044. ગુજરાતના કચ્છ ખાતે આવેલ 'નારાયણ સરોવર અભયારણ્ય' એ નીચેના પૈકી શેના માટે પ્રખ્યાત છે ?
 (A) ઝિબ્રા (B) ચિંકારા
 (C) સિંહ (D) વાઘ
045. નીચેના પૈકી કોને જૂન 2023 માં Points of Light એવોર્ડથી સન્માનિત કરવામાં આવ્યા હતા ?
 (A) એન્ડી સ્મિથ (B) રાજીવર સિંઘ ધત્ત
 (C) હરિ બુધ મગર (D) ડેરીન એડર્વિસ

036. Which of the following helps in the blood clotting?
(A) Vitamin A (B) Vitamin D
(C) Vitamin K (D) Folic acid
037. Which of the following sequence represent a correct order of soil particles arranged in terms of particle size from smaller to largest?
(A) Graval, Silt, Clay, Sand
(B) Graval Sand, Silt, Clay
(C) Silt, Clay, Graval, Sand
(D) Clay, Silt, Sand, Graval
038. When is World Wildlife Week observed?
(A) First week of September (B) Last week of September
(C) First week of October (D) Last week of October
039. One of the most important contributions of ICT in the field of education is _____
(A) easy access to workloads (B) easy access to books
(C) easy access to learning (D) easy access to teaching
040. How many bits does an IP address consist of?
(A) 32 (B) 24
(C) 16 (D) 12
041. National Climate Conclave 2023 was held in which city?
(A) Bhopal (B) Lucknow
(C) Mumbai (D) Ahmedabad
042. The RBI canceled the banking license of which co-operative bank and instructed it to function as a non-banking institution, effective from June 29, 2023?
(A) Anant Laxmi Co-operative Bank (B) Mahalaxmi Co-operative Bank
(C) Cosmos Co-operative Bank (D) Abhyudaya Co-operative Bank
043. Who among the following has been appointed as a Special Director of the Central Bureau of Investigation (CBI)?
(A) Praveen Sood (B) Ajay Bhatnagar
(C) Sharad Agarwal (D) Anurag Joshi
044. "Narayan Sarovar Sanctuary" in Kutch, Gujarat is most famous for which of the following?
(A) Zebra (B) Chinkara
(C) Lions (D) Tigers
045. In June 2023, who among the following has been honored with the Points of Light Award?
(A) Andy Smith (B) Rajindar Singh Dhatt
(C) Hari Budha Magar (D) Darren Edwards

046. જૂન 2023માં જાહેર કરવામાં આવેલ 20માં QS વૈશ્વ વિશ્વવિદ્યાલય રેંકિંગ અનુસાર, ભારતની કઈ સંસ્થાને 149મા ક્રમે ઘોષિત કરવામાં આવેલ છે ?
 (A) IIT, બોમ્બે (IIT B) (B) IIT, દિલ્હી (IIT D)
 (C) ઈન્ડિયન ઇન્સ્ટીટ્યૂટ ઓફ સાયન્સ (IISC) (D) IIT, ખડગપુર (IIT KGP)
047. ગુજરાત રાજ્યમાં સ્થિત કયું શહેર એ ઝરીના ઉત્પાદન માટે જાણીતું છે ?
 (A) સુરત (B) રાજકોટ
 (C) સુરેન્દ્રનગર (D) અમદાવાદ
048. Bloomberg અનુસાર નીચેના પૈકી કઈ ભારતીય બેન્ક એ વિશ્વની સૌથી મૂલ્યવાન (valuable) બેન્કના ક્રમે આવશે ? (જૂન 2023)
 (A) ભારતીય સ્ટેટ બેન્ક (B) ICICI બેન્ક
 (C) YES બેન્ક (D) HDFC બેન્ક
049. દક્ષિણ એશિયામાં ડોપિંગ-વિરોધી પ્રયાસોને મજબૂત કરવા માટે જુલાઈ 2023માં ધી નેશનલ એન્ટી ડોપિંગ એજન્સી, ભારતે કઈ પ્રાદેશિક એન્ટી ડોપિંગ સંસ્થા સાથે (MOU) પર હસ્તાક્ષર કર્યા છે ?
 (A) WADA (B) USADA
 (C) SARADO (D) SASCOC
050. જુલાઈ 4, 2023ના રોજ G-20 રીસર્ચ એન્ડ ઇન્નોવેશન ઈનીશીએટીવ ગેઠરીંગ (Research and Innovation Initiative Gathering) (RIIG) શિબર સંમેલન અને સંશોધન મંત્રીઓની મીટીંગ ભારતના કયા શહેરમાં મળી ?
 (A) નવી દિલ્હી (B) પૂણે
 (C) સુરત (D) મંબઈ
051. આપેલી શ્રેણી પૂર્ણ કરો. — 2, 5, 9, ___, 20, 27
 (A) 16 (B) 18
 (C) 24 (D) 14
052. 40 છોકરીઓની એક હારમાં રોહન એ જમણા છેડેથી ચોદમા ક્રમે છે. ડાબા છેડેથી તેનું સ્થાન કેટલામું હશે ?
 (A) 26મું (B) 28મું
 (C) 25મું (D) 27મું
053. જો એક કોડમાં REASON એ 5 તરીકે કોડ કરવામાં આવે BELIEVED એ 7 તરીકે કોડ કરવામાં આવે તો GOVERNMENT માટેનો કોડ શું હશે ?
 (A) 6 (B) 8
 (C) 9 (D) 10
054. X એ Y નો પરિચય કરાવતાં કહ્યું “તે મારા પિતાના પિતાની પૌત્રીના પતિ છે.” તો Y એ X સાથે કઈ રીતે સંબંધિત છે ?
 (A) ભાઈ (B) કાકા
 (C) બનેવી (Brother-in-law) (D) સસરા (Father-in-law)
055. પૈસા : રૂપિયા :: __?__ : કિલોમીટર
 (A) મીટર (B) હેક્ટોમીટર
 (C) કિલોનટલ (D) હેક્ટોમિટર

046. According to the 20th QS World University Rankings, released in June 2023, which of the following Indian institution has been ranked 149th in the ranking?
(A) IIT, Bombay (IITB) (B) IIT, Delhi (IITD)
(C) Indian Institute of Science (IISc) (D) IIT, Kharagpur (IIT-KGP)
047. Which City located in the state of Gujarat is famous for zari production?
(A) Surat (B) Rajkot
(C) Surendranagar (D) Ahmedabad
048. According to Bloomberg, which of the following Indian bank would be ranked among the world's most valuable banks? (June 2023)
(A) State Bank of India (B) ICICI Bank
(C) Yes Bank (D) HDFC Bank
049. In July 2023, The National Anti-Doping Agency, India signed an MoU with which of the following Regional Anti-Doping Organizations to strengthen the anti-doping efforts in South Asia?
(A) WADA (B) USADA
(C) SARADO (D) SASCOC
050. The G-20 Research and Innovation Initiative Gathering (RIIG) Summit and Research Ministers' Meeting held in which Indian city on July 4, 2023?
(A) New Delhi (B) Pune
(C) Surat (D) Mumbai
051. Complete the series: 2, 5, 9, _____, 20, 27
(A) 16 (B) 18
(C) 24 (D) 14
052. Rohan is fourteenth from the right end in a row of 40 girls. What is his position from the left end?
(A) 26th (B) 28th
(C) 25th (D) 27th
053. If REASON is coded as 5 and BELIEVED as 7, then what is the code for GOVERNMENT?
(A) 6 (B) 8
(C) 9 (D) 10
054. X introduces Y saying, "He is the husband of the grand daughter of the father of my father". How is Y related to X?
(A) Brother (B) Uncle
(C) Brother-in-Law (D) Father-in Law
055. Paisa : Rupee :: ? : Kilometre
(A) Metre (B) Hectometre
(C) Quintal (D) Decametre

056. જે રીતે બીજું પદ એ પ્રથમ પદ સાથે સંબંધિત છે તેજ રીતે નીચેના પૈકી કયો વિકલ્પ એ ત્રીજા પદ સાથે સંબંધિત છે ?

IVORY : ZWSPJ :: CREAM : ____ ?

(A) NFDQB

(B) SNFDB

(C) DSFCN

(D) BQDZL

057. એક છોકરી ઘરેથી નીકળીને દક્ષિણ દિશામાં 12 કિમી ચાલે છે, ત્યાંથી ડાબી તરફ વળી અને 26 કિમી ચાલે છે. પુનઃ ડાબી તરફ વળી 37 કિમી ચાલે છે. ત્યાંથી જમણી તરફ વળી તે 6 કિમી ચાલીને પોતાની ઓફીસે પહોંચે છે તો તે છોકરીની ઓફીસ તેણીના ઘરેથી કઈ દિશામાં આવેલી છે ?

(A) દક્ષિણ પૂર્વ

(B) દક્ષિણ

(C) પૂર્વ ઉત્તર

(D) દક્ષિણ પશ્ચિમ

058. એક ઘડિયાળ 3 મિનિટમાં 5 સેકન્ડ વધે છે અને તે 8 AM એ સમયસર ગોઠવવામાં આવેલ છે. તો તેજ દિવસે 10 PM એ તે કેટલો સમય બતાવશે ?

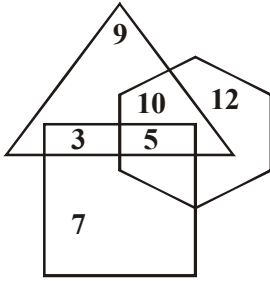
(A) 10:23:20 AM

(B) 11:23:23 AM

(C) 10:23:20 PM

(D) 11:23:23 PM

059. નીચે આપેલી આકૃતિમાં ત્રિકોણ એ ફળનું પ્રતિનિધિત્વ કરે છે. ષટકોણ એ ફૂલનું પ્રતિનિધિત્વ કરે છે અને લંબચોરસ એ શાકનું પ્રતિનિધિત્વ કરે છે. નીચેના પૈકી કઈ સંખ્યા એ આપેલ વેન આકૃતિમાં ફળ અને ફૂલનું પ્રતિનિધિત્વ કરે છે પણ શાકનું પ્રતિનિધિત્વ કરતી નથી ?



(A) 9

(B) 3

(C) 10

(D) 5

060. એક માહિતી વિતરણમાં બહુલક 24 છે, અને મધ્યક 60 છે. તો તેનો મધ્યસ્થ કેટલો હશે ?

(A) 48

(B) 50

(C) 45

(D) 51

061. 10, 20 અને 30 ના લઘુત્તમ સામાન્ય અવયવી અને ગુરુત્તમ સામાન્ય અવયવના ગુણોત્તર કેટલો થાય ?

(A) 8 : 1

(B) 6 : 1

(C) 4 : 1

(D) 2 : 1

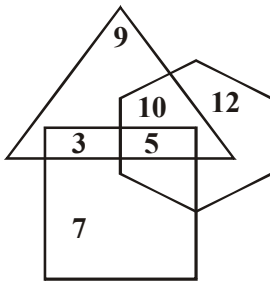
062. જો રૂ. 32000 મુદ્દલ હોય 10% પ્રતિવર્ષ વ્યાજનો દર હોય તો તેના ચક્રવૃદ્ધિ વ્યાજ અને સાદા વ્યાજનો 3 વર્ષનો તફાવત શોધો.

(A) રૂ. 800

(B) રૂ. 852

(C) રૂ. 992

(D) રૂ. 1000

056. Select the option that is related to the third term in the same way as the second term is related to the first term.
 IVORY : ZWSPJ :: CREAM : ?
 (A) NFDQB (B) SNFDB
 (C) DSFCN (D) BQDZL
057. A girl walks 12 kms south from her house, turns left and walks 26 kms, again turns left and walks 37 kms. Again she turns right and walks 6 kms to reach her office. In which direction is the office of the girl from her house?
 (A) South-East (B) South
 (C) North-East (D) South-West
058. A watch gains 5 seconds in 3 minutes and was set right at 8 AM. What time will it show at 10 PM on the same day?
 (A) 10 : 23 : 20 AM (B) 11 : 23 : 23 AM
 (C) 10 : 23 : 20 PM (D) 11 : 23 : 23 PM
059. In the given figure triangle represents fruit, the hexagon represents flower and the rectangle represents vegetable. which of the following number in the Venn diagram represents a fruit and flower but not a vegetable?
- 
- (A) 9 (B) 3
 (C) 10 (D) 5
060. The mode of a distribution is 24 and the mean is 60. What is its median?
 (A) 48 (B) 50
 (C) 45 (D) 51
061. What will be the ratio of the Least Common Multiple and Highest Common Factor of the 10, 20 and 30?
 (A) 8 : 1 (B) 6 : 1
 (C) 4 : 1 (D) 2 : 1
062. Find the difference between compound interest and simple interest for 3 years, if the rate of interest is 10% per annum and the principal is Rs. 32000.
 (A) Rs. 800 (B) Rs. 852
 (C) Rs. 992 (D) Rs. 1000

063. 100 મી લાંબી એક ટ્રેન 70 કિમી પ્રતિ કલાકની ઝડપે દોડી રહી છે. તે ટ્રેન તેની ગતિની દિશામાં જ 10 કિમી પ્રતિ કલાકની ઝડપે દોડી રહેલા એક માણસને કેટલા સમયમાં પસાર કરશે ?
 (A) 6 સેન્કડ (B) 12 સેન્કડ
 (C) 9 સેન્કડ (D) 16 સેન્કડ
064. બે અલગ-અલગ પાસા એક સાથે ઉછાળવામાં આવે છે તે બન્ને પાસામાં આવતી સંખ્યાનો સરવાળો 5 થાય તેની સંભાવના કેટલી ?
 (A) $\frac{1}{9}$ (B) $\frac{1}{5}$
 (C) $\frac{1}{4}$ (D) $\frac{1}{6}$
065. એક સમબાહુ બહુકોણના અંતર્ગત ખૂણાનું માપ 160° છે. આ બહુકોણને કેટલી બાજુઓ હશે ?
 (A) 18 (B) 22
 (C) 24 (D) 26
066. ચાર ઘંટ એ પ્રારંભમાં અને અનુક્રમે 6 સેન્કડ, 12 સેન્કડ, 15 સેન્કડ અને 20 સેન્કડના અંતરાલ પર એક સાથે વાગે છે. તો બે કલાકમાં તે ઘંટ કેટલી વખત એક સાથે વાગશે ?
 (A) 60 (B) 121
 (C) 112 (D) 101
067. સાદું રૂપ આપો. $120 - [100 - (81 \div 9 - (65 - 100 \div 2) \div 15)]$
 (A) 36 (B) 32
 (C) 28 (D) 34
068. 3240 ના અવયવોનો સરવાળો શોધો.
 (A) 10890 (B) 11000
 (C) 10800 (D) 10190
069. નીચેના પૈકી કઈ સંખ્યા એ $(49^{15} - 1)$ નો ભાજક છે ?
 (A) 46 (B) 14
 (C) 8 (D) 50
070. જો $P : Q = 3 : 5$ અને $P : R = 2 : 3$ હોય તો $3P : 4Q : 3R$ ની કિંમત કેટલી થાય ?
 (A) 12 : 8 : 9 (B) 18 : 40 : 27
 (C) 10 : 5 : 4 (D) 4 : 5 : 4
071. A એ 25% ના નફા સાથે B ને મોબાઈલ વેચ્યો તથા B એ તે ફોન 10% ના નુકસાન સાથે C ને વેચ્યો. જો C એ તે મોબાઈલના રૂ. 5625 આપ્યા હોય તો A એ તે ફોનના કેટલા પૈસા ચૂકવ્યા હશે ?
 (A) 4500 (B) 4800
 (C) 5100 (D) 5000
072. જો પ્રથમ સંખ્યાના ચાર ગણા એ બીજી સંખ્યાના ત્રણ ગણાથી 10 વધુ હોય તો તે બે ક્રમિક સંખ્યાઓનો ગુણાકાર શોધો.
 (A) 210 (B) 182
 (C) 306 (D) 156

063. A train 100 m long is running at a speed of 70 km per hour. In how much time will it pass a man who is running at 10 km per hour in the same direction in which the train is going?
- (A) 6 sec (B) 12 sec
(C) 9 sec (D) 16 sec
064. Two different dice are rolled together. Find the probability of getting the sum of numbers on two dice to be 5
- (A) $\frac{1}{9}$ (B) $\frac{1}{5}$
(C) $\frac{1}{4}$ (D) $\frac{1}{6}$
065. The measure of an interior angle of a regular polygon is 160° . How many sides does the polygon have?
- (A) 18 (B) 22
(C) 24 (D) 26
066. Four bells ring simultaneously at starting and an interval of 6 sec, 12 sec, 15 sec and 20 sec respectively. How many times they ring together in 2 hours?
- (A) 60 (B) 121
(C) 112 (D) 101
067. Simplify : $120 - [100 - (81 \div 9 - (65 - 100 \div 2) \div 15)]$
- (A) 36 (B) 32
(C) 28 (D) 34
068. Find the sum of factors of 3240
- (A) 10890 (B) 11000
(C) 10800 (D) 10190
069. Which of the following numbers is a divisor of $(49^{15} - 1)$?
- (A) 46 (B) 14
(C) 8 (D) 50
070. If $P : Q = 3 : 5$ and $P : R = 2 : 3$, then what is the value of $3P : 4Q : 3R$?
- (A) 12 : 8 : 9 (B) 18 : 40 : 27
(C) 10 : 5 : 4 (D) 9 : 5 : 4
071. A sold a mobile phone to B at a gain of 25% and B sold it to C at a loss of 10%. If C paid Rs. 5,625 for it, how much did A pay (in Rs.) for the phone?
- (A) 4,500 (B) 4,800
(C) 5,100 (D) 5,000
072. Find the product of two consecutive numbers where four times the first number is 10 more than thrice the second number.
- (A) 210 (B) 182
(C) 306 (D) 156

073. જો 6 વર્ષ પૂર્વની મારી ઉંમરના 80% એ 10 વર્ષ પછીની મારી ઉંમરના 60% બરાબર હોય તો મારી વર્તમાન ઉંમરના અંકોનો ગુણાકાર કેટલો થાય ?
 (A) 24 (B) 20
 (C) 30 (D) 15
074. કોઈ ચોક્કસ સંકેતિક ભાષામાં “Sun is hot” એ “fi lat muk” તરીકે લખાય, “milk is sour” એ “muk ti mu” અને “milk makes sour” એ “ti mu fa” તરીકે લખાતું હોય તો તે સાંકેતિક ભાષામાં “is” કઈ રીતે લખાય ?
 (A) ti (B) fa
 (C) muk (D) mu
075. જો 3જી માર્ચ 2020ના રોજ મંગળવાર હોય તો 3જી ફેબ્રુઆરી 2019 ના રોજ કયો વાર હશે ?
 (A) ગુરુવાર (B) સોમવાર
 (C) શુક્રવાર (D) રવિવાર
076. A, B, C, D, E વચ્ચે રૂ. 720 વહેંચ્યા. તેમના દ્વારા પ્રાપ્ત થયેલ રકમ એ સમાંતર શ્રેણી (Arithmetic progression)ના ચઢતા ક્રમમાં છે. E એ A કરતાં રૂ. 40 વધુ પ્રાપ્ત કરેલ છે તો B એ કેટલી રકમ પ્રાપ્ત કરી હશે ?
 (A) રૂ. 134 (B) રૂ. 154
 (C) રૂ. 144 (D) રૂ. 124
077. નીચેની શ્રેણી ધ્યાનમાં લો :
 6, 15, 35, 77, 143, 221, 323, 437, 667, ...
 667 પછી શ્રેણીમાં કઈ સંખ્યા હોવી જોઈએ ?
 (A) 817 (B) 843
 (C) 899 (D) 913
078. સૂચના : નીચે આપેલ નિવેદન (Assortion) (A) અને કારણ (Reason) (R) માટે નીચે આપેલ વિકલ્પમાંથી યોગ્ય વિકલ્પ પસંદ કરો.
 Assortion (A) : બહુકોણના બધા આંતરિક ખૂણાઓનો સરવાળો 540° થાય છે.
 Reason (R) : બહુકોણને 5 બાજુઓ છે.
 (A) (A) તથા (R) બન્ને સાચા છે અને (R) એ (A) નું યોગ્ય સ્પષ્ટીકરણ છે.
 (B) (A) તથા (R) બન્ને સાચા છે અને (R) એ (A) નું યોગ્ય સ્પષ્ટીકરણ નથી.
 (C) (A) સાચું છે પણ (R) ખોટું છે.
 (D) (A) ખોટું છે પણ (R) સાચું છે.
079. આવૃત્તિ વિતરણની આલેખમાં રજૂઆતને કહેવાય છે.
 (A) સ્તંભ આલેખ (Bar chart) (B) સુરેખ આલેખ (Line chart)
 (C) હિસ્ટોગ્રામ (Histogram) (D) પાઈ આલેખ (Pie chart)
080. $(8+2\sqrt{15})$ નું વર્ગમૂળ કેટલું થાય ?
 (A) $\sqrt{5}+\sqrt{3}$ (B) $2\sqrt{2}+2\sqrt{6}$
 (C) $2\sqrt{5}+2\sqrt{3}$ (D) $\sqrt{2}+\sqrt{6}$

073. If 80% of my age 6 years ago is the same as 60% of my age after 10 years. What is the product of digits of my present age?
- (A) 24 (B) 20
(C) 30 (D) 15
074. In a certain code language, "Sun is hot" is written as "fi lat muk", "milk is sour" is written as "muk ti mu" and "milk makes sour" is written as "ti mu fa". What is the code for "is" in that code language?
- (A) ti (B) fa
(C) muk (D) mu
075. If 3rd March 2020 was Tuesday, then what was the day of the week on 3rd February 2019?
- (A) Thursday (B) Monday
(C) Friday (D) Sunday
076. Rs. 720 was divided among A, B, C, D, E. The sum received by them was in ascending order and in arithmetic progression. E received Rs. 40 more than A. How much did B receive?
- (A) Rs. 134 (B) Rs. 154
(C) Rs. 144 (D) Rs. 124
077. Consider the following series:
6, 15, 35, 77, 143, 221, 323, 437, 667, ...
What should be the next number in the series after 667?
- (A) 817 (B) 843
(C) 899 (D) 913
078. Direction: For the Assertion (A) and Reason (R) given below, choose the correct alternative from the following as
Assertion (A) : The sum of all internal angles in a pentagon is 540°
Reason (R) : A pentagon has 5 sides
- (A) both (A) and (R) are true and (R) is the correct explanation of (A)
(B) both (A) and (R) are true and (R) is not the correct explanation of (A)
(C) (A) is true but (R) is false
(D) (A) is false but (R) is true
079. The graphical representation of a frequency distribution is called
- (A) Bar chart (B) Line chart
(C) Histogram (D) Pie chart
080. What is the square root of $(8+2\sqrt{15})$
- (A) $\sqrt{5}+\sqrt{3}$ (B) $2\sqrt{2}+2\sqrt{6}$
(C) $2\sqrt{5}+2\sqrt{3}$ (D) $\sqrt{2}+\sqrt{6}$

081. નીચે આપેલાં જૂથ ધ્યાને લઈ સમાનાર્થી શબ્દો વિશે સાચો વિકલ્પ પસંદ કરો.

1. સૂર્ય = પૂષા, સવિતા, દિનેન્દ્ર
2. યમુના = ભાનુસુતા, ભાગીરથી, કાલિન્દી
3. કિરણ = મયૂખ, કર, રશ્મિ
4. દેવ = દિતિજ, સુર, કામદેવ

(A) 1 અને 2 સાચા છે.

(B) 1 અને 3 સાચા છે.

(C) 3 અને 4 સાચા છે.

(D) 2 અને 3 સાચા છે.

082. નીચે આપેલા વિરુદ્ધાર્થી શબ્દો વિશે સાચો વિકલ્પ પસંદ કરો.

1. પીયૂષ × સુધા
2. સુશીલતા × કુલીનતા
3. સૌમનસ્ય × વૈમનસ્ય
4. વિતથ × મિથ્યા

(A) ફક્ત 1 સાચું છે.

(B) 2 અને 3 સાચા છે.

(C) ફક્ત 3 સાચું છે.

(D) 2, 3 અને 4 સાચું છે.

083. નીચે આપેલા જૂથ ધ્યાને લઈ સાચી જોડણીનો વિકલ્પ પસંદ કરો.

1. પુરુષ, પૂરુષ
2. પૂછડી, પૂંછડી
3. વિચી, વિચિ
4. વિત, વિત્ત

(A) ફક્ત 3 સાચું છે.

(B) 2, 3 અને 4 સાચું છે.

(C) 1, 2, 3 અને 4 બધા જ ખોટા છે.

(D) 1, 2, 3 અને 4 બધા જ સાચા છે.

084. રૂઢિપ્રયોગ અને તેના અર્થને જોડતા જોડકાંનો યોગ્ય વિકલ્પ પસંદ કરો.

રૂઢિપ્રયોગ

અર્થ

1. ધૂળમાં જવું

a. વ્યર્થ કરવું

2. ધૂળમાં મળી જવું

b. જમીનદોસ્ત કરવું

3. ધૂળ વાળવી

c. વ્યર્થ જવું

4. ધૂળભેગું કરવું

d. ખૂબ ધમકાવવું

e. જડમૂળથી ઊખડી જવું

(A) 1 - c, 2 - e, 3 - a, 4 - b

(B) 1 - e, 2 - c, 3 - a, 4 - b

(C) 1 - c, 2 - e, 3 - d, 4 - b

(D) 1 - e, 2 - c, 3 - d, 4 - b

085. નીચે આપેલા કહેવતોના જૂથ ધ્યાને લઈ તેના વિશે સાચો વિકલ્પ પસંદ કરો.

1. ઝાઝા હાથ રળિયામણા
2. ઝાઝી સુયાણી વેતર વંઢે
3. બે હાથ વગર તાળી ન પડે
4. ઝાઝાં મળ્યાં ને ખાવા ટળ્યાં

(A) 1 અને 4 સમાનાર્થી કહેવતો છે, 2 અને 3 વિરુદ્ધાર્થી કહેવતો છે.

(B) 1 અને 2 સમાનાર્થી કહેવતો છે, 2 અને 4 વિરુદ્ધાર્થી કહેવતો છે.

(C) 1 અને 4 સમાનાર્થી કહેવતો છે, 1 અને 3 વિરુદ્ધાર્થી કહેવતો છે.

(D) 1 અને 3 સમાનાર્થી કહેવતો છે, 1 અને 2 વિરુદ્ધાર્થી કહેવતો છે.

086. નીચે આપેલા સમાસના જૂથ ધ્યાને લઈ તેના વિશે અયોગ્ય વિકલ્પ પસંદ કરો.

1. તત્પુરુષ સમાસ : પ્રજાહિત, દેવમંદિર, મનમંદિર
2. મધ્યમપદલોપી સમાસ : આગગાડી, હાથચાલાકી, વિદ્યુતઊર્જા
3. દ્વિગુ સમાસ : ચોમાસું, નવભારત, પંચવટી
4. બહુવ્રીહિ સમાસ : ચોપગું, નમાયું, મુશળધાર

(A) 1 અને 2 અયોગ્ય છે.

(B) 2 અને 3 અયોગ્ય છે.

(C) 1 અને 3 અયોગ્ય છે.

(D) 3 અને 4 અયોગ્ય છે.

087. નીચે આપેલા અલંકારોના ઉદાહરણ ધ્યાને લઈ તેના વિશ્લેષણનો સાચો વિકલ્પ પસંદ કરો.

1. રાજુની ગાળો તેણે ગોળથીયે મીઠી લગતી હતી.
2. ભૂખના કરતાં ભૂંડી ભીખ છે.
3. હલકાં તો પારેવાની પાંખથી
4. સો સો બાણ રથીએ માર્યા શરીર કીધું ચારણી

(A) 1 - ઉપમા, 2 - ઉપમા, 3 - વ્યતિરેક, 4 - ઉપમા

(B) 1 - વ્યતિરેક, 2 - વ્યતિરેક, 3 - વ્યતિરેક, 4 - રૂપક

(C) 1 - વ્યતિરેક, 2 - વ્યતિરેક, 3 - વ્યતિરેક, 4 - ઉપમા

(D) 1 - વ્યતિરેક, 2 - વ્યતિરેક, 3 - ઉપમા, 4 - રૂપક

088. નીચે આપેલી સંધિ વિશે સાચો વિકલ્પ પસંદ કરો.

1. ઉમા + ઈસ = ઉમેશ, ગંગા + ઉદક = ગંગોદક
2. ઉમા + ઈશ = ઉમેશ, ગંગા + ઊદક = ગંગોદક
3. ઉમા + ઈશ = ઉમેશ, ગંગા + ઉદક = ગંગોદક
4. ઉમા + ઈશ = ઉમેશ, ગંગા: + ઉદક = ગંગોદક

(A) ફક્ત 1 સાચું છે.

(B) ફક્ત 2 સાચું છે.

(C) ફક્ત 3 સાચું છે.

(D) ફક્ત 4 સાચું છે.

089. નીચે આપેલી છંદની માહિતીના વિશે સાચો વિકલ્પ પસંદ કરો.

1. હરિણી : અક્ષર : 17

ગણ : ન સ મ ર સ લ ગા

પવન ઝડપે પાણી ડોલ્યાં, નદી મલકી પડી

2. પૃથ્વી : અક્ષર : 17

ગણ : જ સ જ સ ય લ ગા

વર્ષા કાલે જલધિજલના હોય જાણે તરંગ

3. મંદાકાન્તા : અક્ષર 17

ગણ : મ ભ ન ત ત લ ગા

રે રે! શ્રદ્ધા ગત થઈ પછી કોઈ કાળે ન આવે

4. શિખરિણ : અક્ષર : 17

ગણ : ય મ ન સ ભ લ ગા

લડો પાપો સામે અડગ દિલના ગુપ્ત બળથી

(A) 1 અને 4 સાચા છે.

(B) 1 અને 3 સાચા છે.

(C) 1, 3 અને 4 સાચા છે.

(D) 1, 2, 3 અને 4 બધા જ સાચા છે.

090. નીચે વિગતોને ધ્યાને લઈ સાચો વિકલ્પ પસંદ કરો.

1. કર્મધારય સમાસ : લાલચોળ

2. ગો + ઈશ્વર = ગવીશ્વર

3. દોહરો : નમતાથી સૌ કો રીઝે, નમતાને બહુમાન,
સાગરને નદીઓ ભજે, છોડી ઊંચા સ્થાન.

4. શ્લેષ અલંકાર : મીર જાફર નામનો નવાબ હતો.

(A) 1 અને 2 સાચા છે.

(B) 2 અને 3 સાચા છે.

(C) 1, 3 અને 4 સાચા છે.

(D) 1, 2, 3 અને 4 બધા જ સાચા છે.

091. You to take a taxi. Otherwise you will be late. (choose suitable auxiliary form)

(A) will have

(B) should have

(C) can have

(D) might have

092. We must try to get home time tea. (supply suitable prepositions)

(A) in; by; with

(B); in;

(C); in; for

(D) in; on; along

093. It is pleasure to do business with such efficient organization. (Supply suitable articles, if necessary)

(A) my;; an

(B) a; a; an

(C) my; a, an

(D) a;; an

094. He knew than I did. (Supply suitable degree of adjective)

(A) much

(B) more

(C) most

(D) None of the above

095. Mary hardly ever cooks. (Add question tag)
- (A) Do she? (B) Did she?
(C) Had she (D) Does she?
096. I knew he have to hire a car for undertaking the journey. (Identify the correct choice)
- (A) May (B) Might
(C) Can (D) Had
097. If you have difficulty, let me know. (Identify the correct choice)
- (A) Few (B) Some
(C) One (D) Any
098. I bought a dozen eggs, six of broke when I dropped the box at my door. (Choose the suitable pronoun)
- (A) Those (B) Who
(C) Which (D) Whose
099. They used to start these engines by hand. (Change voice)
- (A) These engines were started by hand.
(B) These engines used to start by hand.
(C) These engines had to be started by hand.
(D) These engines used to be started by hand.
100. Choose the correct sentence:
- (A) To conclude, I would like to say that everyone should read this book.
(B) In the concluding, I would like to say that everyone should read this book.
(C) As a conclusion, I'd like to say that everyone should read this book.
(D) For a conclusion, I'd like to say that everyone should read this book.
101. A high Reynolds number implies:
- (A) Low flow velocity (B) Smooth flow
(C) Laminar flow (D) Turbulent flow
102. Upon examination of a dead body, a fire inspection report shows a peculiar finding that the chocolate-coloured discolouration of the body, which did not blanch on pressure and it was suspected that the victim died of poisoning. Which of the following statements is false regarding this scenario?
- (A) The discolouration is due to formation of methemoglobin
(B) This condition is associated with poisoning by nitrates
(C) The discolouration is likely to disappear in 24-48 hours after death
(D) The victim could have been saved by the timely use of methylene blue

103. Match the following?

List I

Petroleum Products

- a. Class A
- b. Class B
- c. Class C
- d. Excluded

(A) a - iii, b - ii, c - iv, d - i

(C) a - i, b - iv, c - iii, d - ii

List II

Flash Point (°C)

- i. Above 93
- ii. 65 And above
- iii. 23 and above
- iv. Below 23

(B) a - ii, b - iv, c - i, d - iii

(D) a - iv, b - iii, c - ii, d - i

104. Read the following statements:

- i. LPG is denser than air
- ii. Vapour density of LPG is 1.5
- iii. Lower explosion limit (LEL) and Upper explosion limit (UEL) of LPG is 1.8% and 12.8% respectively
- iv. LPG is a mixture of propane and butane

Which of the following is/are correct:

(A) iii, iv

(B) ii, iii, iv

(C) i, ii, iii, iv

(D) i, ii, iv

105. As a paramedic, if a patient is brought to you with an alleged history of consumption of kerosene in an attempt to commit suicide. Which of the following statements is true?

(A) It is mandatory to inform the police before starting any treatment

(B) Emergency treatment may be started with gastric lavage

(C) You are not bound by law to inform the police

(D) None of the above

106. A backdraft is a dangerous condition for fire fighters mainly because?

(A) There is not enough oxygen for breathing

(B) The heat is extremely intense

(C) The smoke is dangerously thick

(D) An explosion occurs

107. Statement 1 : A plant where crude oil is received and processed to produce various intermediates and finished products is known as petroleum refinery.

Statement 2 : A plant where oil/natural gas is collected and processed to produce Oil/LPG and other petroleum fractions is known as petroleum refinery.

(A) Both the statements 1 and 2 are true

(B) Statement 1 is true and statement 2 is false

(C) Statement 1 is false and statement 2 is true

(D) Both the statements 1 and 2 are false

108. A sprinkler system in which parallel cross mains are connected by multiple branch lines. An operating sprinkler will receive water from both ends of its branch line while other branch lines help transfer water between cross mains is known as:
- (A) Looped Sprinkler System (B) Multi-Cycle System 8500 kg
(C) Pre-action Sprinkler System (D) Gridded Sprinkler System
109. Assertion : Glass fibre materials are not suitable for fire stopping.
Reason : They shrink and melt at temperatures over about 300°C.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
110. Water spray rings for columns more than _____ m shall be provided.
- (A) 45 (B) 60
(C) 25 (D) 80
111. Which test should you use if you suspect that a casualty has had a stroke?
- (A) Face, Arms, Speech, Test.
(B) Alert, Voice, Pain, Unresponsive.
(C) Response, Airway, Breathing, Circulation.
(D) Pulse, Respiratory Rate, Temperature
112. When travelling at 48 km/h on a level dry surface the foot brake of Water Tender, Type 'B' shall be capable of stopping the vehicle within a distance of _____ from the point at which the brake is applied:
- (A) 15 m (B) 16 m
(C) 20 m (D) 25 m
113. The operating pressure of normal water type extinguisher is in the region of
- (A) 15 bars (B) 5 bars
(C) 25 bars (D) 10 bars
114. Which one of the following is not a categories of fire investigation?
- (A) Accidental (B) Incendiary
(C) Undetermined (D) None of the above
115. A supply of at least _____ spare sprinklers shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced:
- (A) Four (B) Five
(C) Six (D) Eight
116. During the performance of the investigational routine described, it is clear that the investigator is constantly noting indications with one of the following
- (A) Fire pattern (B) Extraneous fuel
(C) Sources of ignition (D) All of the above

117. Major difficulty in investigation is
☒ (A) Loss of evidences due to extinguishing the fire by water
 (B) lack of officials for investigation
 (C) lack of facilities for investigation
 (D) None of the above
118. Which of the following is an example of passive fire protection system?
 (A) Hose Reel (B) Sprinkler System
☒ (C) Fire Walls (D) Portable Fire Extinguisher
119. Statement 1 : Oil loading/unloading tank trunk and the tank wagon Gantries shall be provided with water spray and foam system.
 Statement 2 : The fire water system shall be designed for a minimum residual pressure of 7 KG/centimeter square at the hydraulically point of application.
☒ (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
120. If the fire investigator has Reason to suspect that an accelerant was used, he/she should advise the medical examiner of this fact. Based on the information supplied, especially the distance between the point of origin and the body, the examiner may choose to send the blood and lung samples to the lab for which one of the following analyses?
 (A) Carboxyhemoglobin (B) Medicolegal autopsy
☒ (C) Investigative canvass (D) Gas chromatographic
121. Statement 1 : De-ionised water mist fire extinguishers have a white label and are highly effective in classes A, B, and C and burning electrical equipment
 Statement 2 : Water mist extinguishers are safe and well suited for use on burning electrical equipment as the de-ionized water mist does not conduct electricity and the water mist does not form puddles which could lead to electrocution.
☒ (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
122. In fire service hydraulics, what is the primary factor that affects the power transmission through a pipeline?
☒ (A) Pipe diameter (B) Pipe material
 (C) Elevation changes (D) Water temperature
123. In case of temporary structure or pandal, Cross gangways shall be provided affording passage after every _____ of seats, width of such passage being not less than 1.5 m:
 (A) 8 row ☒ (B) 10 row
 (C) 12 row (D) 14 row

124. Which one of the most used nondestructive or noninvasive testing procedure in fire investigation?
- (A) Sonography testing (B) Radiography testing
(C) Pathology testing (D) Solvent testing
125. Management has an important role to play by
- (A) Organizing the training of staff in correct maintenance practices and elimination of seed-defects.
(B) Deploying adequate resources for investigation of failures and monitoring of corrective action
(C) Aiming at zero failure performance.
(D) All of the above
126. When a fluid fluid is at rest then the shear stress is?
- (A) 1 (B) 2
(C) 0 (D) 4
127. Which of the following Assertion and Reason are correct in the purpose of fire modelling in wildfire management?
- (A) Assertion : Fire modelling is a tool for predicting the exact ignition point of a wildfire.
Reason : Fire models are highly precise and can pinpoint the exact location where a wildfire will start.
- (B) Assertion : Fire modelling helps in understanding the potential spread and behaviour of wildfires.
Reason : By considering factors like weather, topography, and fuel types, fire modelling can simulate how a wildfire might evolve.
- (C) Assertion : Fire modelling is solely used for controlling and suppressing wildfires.
Reason : Fire modelling is not concerned with prediction but focuses on immediate firefighting strategies.
- (D) Assertion : Fire modelling is ineffective in regions with a history of wildfires.
Reason : Regions with previous wildfire events have unpredictable fire behaviour, making modelling ineffective.
128. Assertion : The rate of pressure rise following the ignition of a flammable vapour / air mixture in an enclosed space is increased substantially if there is turbulence in the flammable mixture ahead of the flame.
Reason : If there are no obstacles in the path of a propagating flame, but in addition substantial turbulence will be generated if the enclosure is subdivided into compartments (rooms) linked by open doors.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
129. The _____ is essentially a system to organise, command and control various emergency functions in a standardised manner while responding to any disaster:
- (A) Incident Response System (B) Emergency Operation Centre
(C) Standard Operating Procedure (D) None of the above

130. The flow-rate from a 15 mm type A nozzle when working at a pressure of 4 bar would be:
(A) 300 litres per minute (B) 675 litres per minute
(C) 600 litres per minute (D) 60 litres per minute
131. For a performance-based design, a fire protection consultant makes an assumption that the production rate of carbon monoxide for a modeled fire package is equal to the highest production rate of each of the component fuels. This assumption would be considered:
(A) explicit safety factor (B) implied safety factor
(C) total safety factor (D) no safety factor
132. Which one of the following types of examination will not be generally carried out by the general fire investigator although skilled?
(A) Witnesses' interrogation examinations
(B) Laboratory examinations
(C) Inflammable examinations
(D) Victim examinations
133. Which fire suppression method involves using a mixture of gases to reduce the oxygen concentration, effectively smothering a fire without leaving residue?
(A) Pyrolysis (B) Flame inhibition
(C) Inert gas suppression (D) Smoke scrubbing
134. Before the investigator attempts the actual investigation of a fire, he/she should be Reasonably familiar with one of the following?
(A) Management studies of fire administration
(B) Principles of fuels and fire behavior
(C) Fire codes and standards
(D) Investigative techniques and methodology
135. Normal range of pulse rate, respiratory rate, temperature, heart rate respectively are the following
(A) 50-80, 9-12, 56.1°C to 77.9°C, 42-90
(B) 90-110, 40-48, 26.1°C to 36.9°C, 12-60
(C) 60-100, 12-18, 36.1°C to 37.9°C, 52-100
(D) 20-70, 1-8, 16.1°C to 27.9°C, 22-50
136. Which of the following is not cover under the investigation and mechanisms of failures of electrical components?
(A) Metal fatigue (B) Electrical tracking
(C) Electrical contact resistance (D) Thermal upgradation of electrical insulation
137. To determine the type of electrical installation, an area in which an explosive gas atmosphere is likely to occur in normal operation is classified as:
(A) Zone 0 (B) Zone 1
(C) Zone 2 (D) All of the Above

138. Assertion : Passive fire protection is as important as active fire protection in safeguarding buildings from fire hazards.
Reason : Passive fire protection features, such as fire-resistant construction materials and compartmentation, provide structural integrity and slow the spread of fire.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
139. A sample of Dry Chemical powder shall be deemed to have met the requirement of Hygroscopicity if the percentage gain in mass due to moisture absorption does not exceed _____ percent:
- (A) One (B) One and Half
(C) Two (D) Two and half
140. According to Gujarat fire prevention and life safety measures Act 2014, which notice shall be issued to the owner or occupier of building or premises by the authorized officer for the purpose of removal of objects or goods likely to cause the risk of fire.
- (A) Form-B1 (B) Form-B2
(C) Form-B3 (D) Form-B4
141. A stronger breeze may so accelerate the dispersion of vapours that the extent of potentially hazardous area would be greatly:
- (A) Remained same (B) Increased
(C) Reduced (D) None of the above
142. Which of the following apparatus has equilibrium between ignitable vapours with liquid?
- (A) Close up Flashpoint Apparatus (B) Open up Flashpoint Apparatus
(C) Equilibrium Flashpoint apparatus (D) Dynamometer Apparatus
143. Assertion : Water is not suitable in petroleum fires
Reason : Density of petrol is less than water
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
144. Statement 1 : Protein based foam concentrate include (AFFF-AR).
Statement 2 : Synthetic based foam concentrate includes (AFFF.)
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
145. What is the primary factor determining whether a fluid flow is considered laminar or turbulent?
- (A) Viscosity of the fluid (B) Reynolds number
(C) Temperature of the fluid (D) Pressure of the fluid

146. Which valve should be fitted immediately below the downstream of the main alarm valve of a standard sprinkler installation?
- (A) Non return valve (B) Check valve
(C) Pressure valve (D) Main stop valve
147. Identify the correct sequence of steps for fire investigation by using the scientific method in most fire or explosion incidents from inception through final analysis?
- (A) Analyzing the incident, preparing for the investigation, recording the scene, collecting and preserving evidence, receiving the assignment, examination of the scene.
(B) Recording the scene, receiving the assignment, examination of the scene, analyzing the incident, preparing for the investigation, collecting and preserving evidence.
(C) Receiving the assignment, preparing for the investigation, examination of the scene, recording the scene, collecting and preserving evidence, analyzing the incident.
(D) Collecting and preserving evidence, recording the scene, receiving the assignment, analyzing the incident, preparing for the investigation, examination of the scene
148. Universal Extinguisher is
- (A) Foam Type (B) CO₂ type
(C) DCP (D) Water type
149. In an incendiary fire investigation, the source of ignition may be direct or time-delayed. In this regard, which one of the following is not a time-delayed ignition device?
- (A) Electronic timers (B) Candles
(C) Chemicals (D) None of the above
150. What is the pressure in pipe when measure by vertical water column manometer shows reading of 1.5 meter height from its center of pipe (Take $g = 10 \text{ m/s}^2$).
- (A) 20 KPa (B) 30 KPa
(C) 50 Kpa (D) 15 Kpa
151. Statement 1 : Alarm actuated by heat, smoke, flame-sensing devices, or the water flow in a sprinkler system conveyed to local alarm bells and/or the fire station.
Statement 2 : Alarm boxes that automatically transmit a coded signal to the fire station to give the location of the alarm box.
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
152. Match the following under electrical fire investigations
- | List I | List II |
|-------------------------|------------------|
| a. Joule burns | i. Electrocution |
| b. Crocodile flash burn | ii. Lightning |
| c. Moist burn | iii. Scalds |
| d. Filigree burn | iv. Electrical |
- (A) a - iii, b - ii, c - iv, d - i (B) a - ii, b - iv, c - i, d - iii
(C) a - i, b - iv, c - iii, d - ii (D) a - iv, b - ii, c - i, d - iii

153. Match the following:
- | | |
|--|-------------------|
| a. Specification of no percolating fire hose | i. IS 909-1992 |
| b. Specification of hose coupling, nozzle, branch pipe | ii. IS 903-1993 |
| c. Specification of fire hose maintenance | iii. IS 636-2018 |
| d. Specification of underground fire hydrant sluice valve type | iv. IS 14851-2018 |
- (A) a - iii, b - ii, c - iv, d - i (B) a - ii, b - iv, c - i, d - iii
(C) a - i, b - iv, c - iii, d - ii (D) a - iv, b - ii, c - i, d - iii
154. Assertion : Floating roof tank is especially important for the storage of volatile liquids like gasoline and crude oil.
Reason : The floating roof acts as a barrier between the stored liquid and the atmosphere, minimizing the evaporation of volatile compounds.
(A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
155. Statement 1 : The act contains provisions for penalties in case of violations, including imprisonment and fines.
Statement 2 : The Petroleum Rules, 2002, were issued under the authority of the Petroleum Act, 1934.
(A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
156. All static water tanks for fire fighting shall normally be located within _____ of the risk to be protected:
(A) 60 meter (B) 100 meter
(C) 120 meter (D) 150 meter
157. Match the following?
- | | |
|----------------|---|
| 1. Fire walls | a. To prevent the spread of fire from one building to another |
| 2. Fire doors | b. To alert people of a fire in its early stages |
| 3. Smoke alarm | c. To automatically extinguish fires in their early stages |
| 4. Sprinkler | d. To close off openings in fire walls and compartmentation walls to prevent the spread of fire and smoke |
- (A) 1 - a, 2 - b, 3 - c, 4 - d (B) 1 - b, 2 - d, 3 - a, 4 - c
(C) 1 - c, 2 - b, 3 - a, 4 - d (D) 1 - a, 2 - d, 3 - b, 4 - c
158. For all risks coming under high hazard category and with single unobstructed floor area not exceeding 1000 m², it shall have water storage for fire fighting equivalent to 3 hours pumping capacity minimum, when using _____ simultaneously each jet consuming 600 lpm:
(A) 2 strong jets (B) 4 strong jets
(C) 6 strong jets (D) 8 strong jets

159. For cooling of adjoining flammable liquid tanks, additional quantity of water shall be provided at the rate of 10 LPM / m² of exposed surface of the next tank, for a period of at least _____:
- (A) 4 hours (B) 3 hours
(C) 2 hours (D) 1 hours
160. Find LFL of a gas mixture composed of 8% hexane, 2.0% methane, 0.5% ethylene and rest is air by volume? [Methane = 5.0 % ; Ethylene = 2.7 %; Hexane = 1.2 %]
- (A) 1.45 % (B) 1.25 %
(C) 8.9 % (D) 7.25 %
161. What factor primarily affects power transmission through a fire service pipeline?
- (A) Pipe material (B) Pipe diameter
(C) Water temperature (D) Pipe colour.
162. The process whereby fire consumes most solids is known as
- (A) Oxidation (B) Pyrolysis
(C) Smothering (D) Smoldering
163. Which fire extinguishing agent works by removing heat from the fire?
- (A) Carbon dioxide (CO₂) (B) Water
(C) Foam (D) Dry chemical
164. Metal fires are coming under the class of fire
- (A) Class B (B) Class C
(C) Class D (D) Class A
165. Which special hazard fire protection system has been outdated since 1993-1994?
- (A) Clean Agent (B) Halon 1301
(C) Dry Mist (D) Inert Gas
166. The disclosure of information via Material Safety Data Sheets (MSDS) by _____ to workers on chemical hazards is a statutory requirement:
- (A) Transporters (B) Safety Committee
(C) Occupiers (D) Plant Supervisor
167. The premixed flame can be studied experimentally by stabilizing it on a gas burner. The simplest burner is Bunsen burner. In Bunsen burner, the blue colour flame is a premixed flame and is propagating against the gas flow.
- Statement 1 : If gas fuel supply velocity > burning velocity of fuel, then flame will not enter in premixed gas and oxygen mixture.
- Statement 2 : If gas fuel supply velocity < burning velocity of fuel, then flame will enter in mixture in Bunsen burner.
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false

168. Water flow rate calculated for cooling a tank on fire at a rate of _____ of tank shell area ?
 (A) 2 lpm/m² (B) 3 lpm/m²
 (C) 1 lpm/m² (D) 4 lpm/m²
169. Statement 1 : Firewalls are walls that are designed to prevent the spread of fire from one building to another.
 Statement 2 : Fire doors are doors that are designed to close manually in the event of a fire to prevent the spread of smoke and flames.
 Statement 3 : Sprinkler systems are fire protection systems that use water to extinguish fires.
 Statement 4 : Standpipes are not installed in buildings to provide a water supply for firefighting operations
 (A) Only statement 1 is true. (B) Statement 1 and statement 4 are true.
 (C) Statement 2 and Statement 3 are true. (D) All statements are incorrect.
170. Buildings are classified into how many categories as per NBC part 4?
 (A) 8 (B) 9
 (C) 10 (D) 11
171. Which one of the following is a fully correct statement?
 (A) Combustion is an exothermic redox reaction. Redox reactions are those that involve the complete transfer of electrons from one chemical species to another. The chemical species that loses electrons is known as the oxidant or oxidising agent.
 (B) Combustion is an exothermic redox reaction. Redox reactions are those that involve the complete transfer of electrons from one chemical species to another. The chemical species that gains electrons is known as the oxidant or oxidising agent.
 (C) Combustion is an exothermic redox reaction. Redox reactions are those that involve the complete transfer of electrons from one chemical species to another. The chemical species that gains electrons is known as the reductant or reducing agent.
 (D) Combustion is an endothermic redox reaction. Redox reactions are those that involve the complete transfer of electrons from one chemical species to another. The chemical species that gains electrons is known as the oxidant or oxidising agent.
172. Which type of fire extinguish by Dry powder?
 1. Metal fire 2. Electrical type 3. Flammable liquid type 4. Combustible solid type
 (A) only 1 (B) 1,3,4
 (C) 1 and 2 (D) 1, 2, 3, 4
173. It is evident that the most productive investigation will be done with one of the following scenarios regardless of the time sequence of that investigation as related to the fire.
 (A) At the scene of the fire (B) Immediately after the fire is extinguished
 (C) During clearing of the fire scene. (D) After clearing of the fire scene.

174. **Assertion :** Mono ammonium phosphate is only a type of DCP which is used in use class A fire
Reason : Because it could knock of the flames part of the Powder would melt and form a crust the burning material excluding Oxygen and managing to extinguish the glow within the burning material
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
175. **Statement 1 :** Light timber frame structures are protected from fire by linings of non-combustible materials.
Statement 2 : Fire exposed heavy timber members tend to deform much less than unprotected steel members.
- (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
176. What should you do if a fire becomes too large to control with a portable extinguisher?
- (A) Continue using the extinguisher until it's empty.
 (B) Evacuate the area and call the fire department.
 (C) Open windows and doors to let in more oxygen.
 (D) Use a fire blanket to smother the flames.
177. Which of the following is an example of a primary sensing element used in temperature measurement in industrial instrumentation?
- (A) Pressure transducer (B) Flowmeter
 (C) Thermocouple (D) pH electrode
178. **Assertion :** The use of fire-resistant materials in building construction is a critical aspect of structural fire protection.
Reason : Fire-resistant materials can delay the spread of fires and provide occupants with more time to evacuate a burning building.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
179. The investigation of electrical fires and failures is a responsibility which should be undertaken by
- (A) Electrical Companies and contractors
 (B) Stakeholders and owners
 (C) Maintenance supervisors and engineers
 (D) Manufactures and distributors

180. In fire safety engineering, what does the term “LFL” (Lower Flammable Limit) refer to?
- (A) The minimum temperature required for a fire to ignite
- ☒ (B) The maximum concentration of fuel in the air that will support combustion
- (C) The ignition source responsible for starting a fire
- (D) The extinguishing agent.
181. Assertion : Reciprocating pump is not used in most of the fire Tenders.
Reason : As its shut off head is zero.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- ☒ (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Assertion is false but Reason is true.
182. Read the following statements:
- Fire service hydraulics is the study of how water flows through fire hoses and nozzles.
 - Fire service hydraulics is important for firefighters to understand to operate firefighting equipment effectively.
 - Fire service hydraulics is also important for firefighters to understand to predict how water will flow through a building during a fire.
 - Fire service hydraulics is a complex subject, but it is essential for firefighters to have a basic understanding of it
- Which of the following is/are true?
- (A) i , iv
- ☒ (B) i, ii and iii
- (C) i, ii, iii, iv
- (D) ii, iii
183. The disaster is classified on the basis of magnitude of probable severity and level of control required. The level at which surveillance, preparedness and mitigation activities carried out is:
- ☒ (A) Level 0
- (B) Level 1
- (C) Level 2
- (D) Level 3
184. Assertion : Fire spreads faster in a well-ventilated room.
Reason : Increased oxygen supply promotes combustion and accelerates the fire’s growth.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Assertion is false but Reason is true.
185. Which of the following IPC (Indian Penal Court) tells- “Mischief by fire or explosive substance with intent to destroy house, etc.”
- Section 438
 - Section 437
 - Section 435
 - Section 436
- (A) only i
- ☒ (B) both i and ii
- (C) only iv
- (D) both iii and iv

186. Statement 1 : Fire codes and regulations are primarily concerned with land use planning and zoning.
Statement 2 : Fire codes and regulations primarily address building construction, fire protection systems, and emergency planning, rather than land use planning and zoning.
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
☒ (C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
187. A minimum output of _____ of foam to each of the hand-lines on either side of the Air Crash Fire Tender to give a minimum effective throw specified foam of 25 m at pump delivery pressures not exceeding 8.5 kg/cm² and using 30 m specified hose:
- (A) 1000 litres (B) 700 litres
☒ (C) 500 litres (D) 450 litres
188. Assertion : Total Quality Management (TQM) is primarily concerned with inspecting products to ensure quality.
Reason : TQM focuses on improving quality at all stages of the production process and involves the participation of all employees.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
☒ (C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
189. Which of the following are the three basic causes of fire?
- ☒ (A) An act of God, an accidental origin, an incendiary origin
(B) A providential origin, a planned origin, an incendiary origin
(C) An act of God, an accidental origin, a non-inflammatory origin
(D) A providential origin, a planned origin, a non-inflammatory origin
190. Statement 1 : Fire services in India come under the 12th schedule of the Constitution
Statement 2 : The performance of functions listed in the 12th schedule comes under the domain of municipalities.
- ☒ (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
191. The fire pump primer of water tender shall be capable of lifting water at least 7.0 m in not more than _____ when connected with 100 mm suction hose:
- (A) 22 seconds ☒ (B) 24 seconds
(C) 28 seconds (D) 30 seconds

192. The lowest concentration of clean agent fire extinguishant at which an adverse toxicological or physiological effect has been observed is termed as:
- ☒ (A) Lowest Observed Adverse Effect Level (LOAEL)
 - (B) No Observed Adverse Effect Level (NOAEL)
 - (C) Immediately Dangerous to Life and Health (IDLH)
 - (D) None of the Above
193. The travel time that begins when fire fighting units are en route to the emergency incident and ends when units arrive at the scene is the:
- (A) Dispatch time
 - ☒ (B) Response Time
 - (C) Turnout Time
 - (D) Call Processing time
194. Statement 1 : Second degree burns include blisters and extremely pops open
Statement 2 : Due to blisters, leathery texture seen in second degree burns
- (A) Both the statements 1 and 2 are true
 - ☒ (B) Statement 1 is true and statement 2 is false
 - (C) Statement 1 is false and statement 2 is true
 - (D) Both the statements 1 and 2 are false
195. Which one of the following is not an indicator of overheated electrical connections?
- (A) Discoloration, arcing, pitting and erosion of the surfaces of the connectors, terminals, and wires
 - (B) Heavier charring to the combustible wood studs/support for the boxes as compared to other nearby stud surfaces
 - (C) Partial or complete deterioration of connections as compared to intact connections in the same enclosure.
 - ☒ (D) None of the above
196. Assertion : Flammable liquid fire can be extinguished by Foam type extinguisher.
Reason : As foam forms a crust which smothers the fire and deprives it of oxygen.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 - (C) Assertion is true but Reason is false.
 - (D) Assertion is false but Reason is true.
197. A class III commodity is encapsulated and stored on shelves within a large walk-in cooler. A dry system is being designed to serve this hazard. If the storage is anticipated to be 13 ft. in height with a 17 ft. ceiling, determine the required design density with the smallest remote area for high temperature sprinkler protection using the Control Mode Density/Area approach.
- (A) 0.14 gpm/sqft / 2,000 sqft
 - ☒ (C) 0.15 gpm/sqft / 2,600 sqft
 - (B) 0.14 gpm/sqft / 2,600 sqft
 - (D) 0.17 gpm/sqft / 2,000 sqft

198. Which one of the following is not an indicator of fire cause by overheated wires?
- (A) The overcurrent protection serving the suspect circuit have been bypassed, tampered with, or are of improper size
- (B) Charring inside the holes where the circuit passes through wooden structural members
- (C) Numerous points of fire damage along the same circuit
- ☒ (D) None of the above
199. Statement 1 : Firewalls are used to compartmentalize a building and prevent the spread of fire.
- Statement 2 : Firewalls are typically made of concrete or brick.
- (A) Both the statements 1 and 2 are true
- (B) Statement 1 is true and statement 2 is false
- ☒ (C) Statement 1 is false and statement 2 is true
- (D) Both the statements 1 and 2 are false
200. Match the following?
- | List I | List II |
|---------------------------------|-----------------------------|
| 1. Computational Fluid Dynamics | a. Fire Spread |
| 2. Heat Release Rate | b. Fire Dynamics Simulator |
| 3. Fire Plume | c. Smoke Production Rate |
| 4. Radiative Heat Transfer | d. Convective Heat Transfer |
- (A) 1 - a, 2 - d, 3 - b, 4 - c
- ☒ (B) 1 - b, 2 - c, 3 - a, 4 - d
- (C) 1 - c, 2 - a, 3 - d, 4 - b
- (D) 1 - b, 2 - d, 3 - c, 4 - a
201. Assertion : A safety audit is an intensive plant inspection aimed at identifying conditions or procedures that could lead to accidents or significant losses of life and property.
- Reason : Safety audits are used to ensure that safety and risk management programs meet the original expectations and standards, and they seek to identify inadequacies in design and operating procedures.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Assertion is false but Reason is true.
202. The investigation of failures and fires can be difficult and frustrating when
- ☒ (A) Root causes are not identified
- (B) Swiftly arrested
- (C) Identified the incidence of failures of a particular type
- (D) Taking place in service

203. Assertion : The National Building Code focuses on promoting sustainable construction practices.
Reason : Sustainable construction is vital for environmental protection, and the code emphasizes eco-friendly building materials and energy-efficient designs.
(A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
204. If the pre-mixture flows into a flame with laminar flow whose velocity is _____ to the burning velocity of the mixture, the flame can be held stationary:
(A) Less (B) More
(C) Equal (D) None of the Above
205. Mach number is the ratio of inertial force to?
(A) Elastic force (B) Viscous force
(C) Gravitational force (D) Plastic force
206. A high rise building during construction shall be provided with the following fire protection measures:
(A) Dry Riser (B) Wet riser
(C) Fire Alarm (D) All of the Above
207. Medium and low voltage wiring running in shafts, and within false ceiling shall run in _____ :
(A) PVC conduit (B) Metal conduit
(C) Electrical Non-metallic Tubing (D) All of the Above
208. A 12 year old boy came to the casualty with scald injury of arm. The lesion was pink, oozing and painful to air and touch. What is the degree of the burn and which of the following is the most appropriate management?
(A) Second degree, Collagen dressing
(B) Third degree, Excision and grafting
(C) Third degree, paraffin gauze dressing
(D) Second degree, silver sulphadiazone cream dressing
209. Protection with water spray system shall be considered as best option in case of:
i. Fire extinguishment ii. Control of burning
iii. Exposure protection iv. Fire prevention.
Which of the following is correct?
(A) iii, iv (B) ii, iii, iv
(C) i, ii, iv (D) i, ii, iii, iv
210. Assertion : Special hazards exist in shipyards and ports due to the handling of various hazardous materials.
Reason : Shipyard and port operations involve the handling of goods, including chemicals and flammable material.
(A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.

211. Zero failure performance of electrical equipment cannot be attained through:
- (A) Identification and elimination of intrinsic deficiencies in design and control of degradation processes
- (B) Observing and processing the extrinsic deficiencies in design and control of degradation processes**
- (C) Training of staff to identify and to avoid a few types of seed-defects and deficiencies
- (D) In-depth investigation of failures and fires allowed by an action plan to implement the required changes in design, manufacture and maintenance.
212. If the fusible link type sprinkler head has blue yoke arm, then the rating of the sprinkler head would be
- (A) 141°C** (B) 227°C
- (C) 182°C (D) 100°C
213. Match the following:
- | Temperature Rating | Colour of Blub |
|--------------------|----------------|
| a. 57 | i. Red |
| b. 68 | ii. Yellow |
| c. 79 | iii. Green |
| d. 93 | iv. Orange |
- (A) a - iii, b - ii, c - iv, d - i (B) a - ii, b - iv, c - i, d - iii
- (C) a - i, b - iv, c - iii, d - ii **(D) a - iv, b - i, c - ii, d - iii**
214. Assertion : Fire modelling is a crucial component in the principles and practice of evacuation modelling.
- Reason : Fire modelling helps to predict the development and spread of fires within a building, which is essential for assessing the safety and effectiveness of evacuation plans.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.**
- (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Assertion is false but Reason is true.
215. Match the following?
- | List I | List II |
|-----------------|--------------------------|
| 1. Class A Fire | a. Electrical Components |
| 2. Class B Fire | b. Gaseous Substances |
| 3. Class C Fire | c. Chemical Substances |
| 4. Class D Fire | d. Liquid Substances |
| 5. Class E Fire | e. Solid Substances |
- (A) 1 - e, 2 - d, 3 - b, 4 - c, 5 - a** (B) 1 - e, 2 - d, 3 - c, 4 - b, 5 - a
- (C) 1 - e, 2 - d, 3 - a, 4 - c, 5 - b (D) 1 - d, 2 - e, 3 - a, 4 - b, 5 - c

216. During a fire, which factors can cause a sprinkler system to activate?
- High ambient temperature
 - A nearby fire alarm
 - Excessive vibrations
 - Sprinkler head bulb temperature reaching the activation point
- (A) only i, ii and iii **(B) both ii and iv**
 (C) only ii (D) both iii and iv
217. In a fire emergency, what does the “PASS” acronym stand for when using a portable fire extinguisher?
- (A) Pull, Aim, Squeeze, Sweep** (B) Push, Alert, Stand, Shout
 (C) Point, Activate, Spray, Stop (D) Prevent, Assess, Secure, Suppress
218. The minimum bulk range of extinguishers with a Class A rating shall be not less than
- (A) 3m (B) 4m
 (C) 5m **(D) 2m**
219. Can be repeatedly softened and hardened by heating and cooling, without a chemical change taking place is termed as:
- (A) Thermosetting Plastic (B) Low density Plastics
(C) Thermoplastic (D) High density Plastics
220. Assertion : Value Stream Mapping is a tool used in Industrial Engineering to identify and eliminate non-value-added activities in a process.
 Reason : Value Stream Mapping is a Lean tool that helps visualize and analyze the flow of materials and information to reduce waste and improve process efficiency.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.**
 (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
221. Which of the following statement is true?
- (A) In cases of arson, trailers may not be used to spread fire from one location to another.
 (B) In some cases, the nature of the motive of an arsonist will not help shape his or her modus operandi.
 (C) Arsonists may not create fires with multiple seats.
(D) None of the above
222. Assertion : Fire spreads through conduction, convection and radiation
 Reason : Convection is the process of transfer of heat through movement of hot gases
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.

223. Which type of detector is best suitable and causes detection of fire efficiently and in early stages?
- (A) Smoke detector (B) Flame detector
(C) Heat detector (D) Gas detector
224. Statement 1 : The lower flammability limit (LFL) is the minimum concentration of a substance in the air below which it will not ignite or burn. In other words, if the concentration of a flammable substance is below the LFL, there is not enough of it in the air to support combustion.
- Statement 2 : The upper flammability limit (UFL) is the maximum concentration of a substance in the air above which it will not ignite or burn. When the concentration of a flammable substance exceeds the UFL, there is too much of it in the air to support combustion.
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
225. Match the fire protection feature or system with its description:
- | | |
|----------------------|---|
| a. Sprinkler System | i. Automatically activates and releases water when a fire is detected |
| b. Fire Alarm System | ii. Provides early warning of a fire by detecting smoke or heat |
| c. Fire Extinguisher | iii. Portable device that can be used to suppress small fires. |
| d. Smoke Detectors | iv. Notifies occupants and emergency services of fire event |
- (A) a - iii, b - ii, c - iv, d - i (B) a - ii, b - i, c - iv, d - iii
(C) a - i, b - iv, c - iii, d - ii (D) a - iv, b - ii, c - i, d - iii
226. During fire investigation, the physical signs and substances that reveal, by implication, how a fire developed are referred to as _____:
- (A) "Fire Indicator" (B) "Fire Pattern"
(C) "Fire Language" (D) All of the Above
227. What is the name of the process that involves the rapid spread of flames through a room, often referred to as a "flashover" in fire engineering?
- (A) Pyrolysis (B) Firestorm
(C) Backdraft (D) Deflagration
228. What is the primary purpose of zoning regulations in the context of fire safety?
- (A) To specify the color and design of fire hydrants
(B) To control the placement and use of buildings in different areas
(C) To establish fire department policies and procedures
(D) To dictate the number of fire exits in a building
229. Statement 1 : Foam concentrate wetting agents for increasing penetrating ability of Water.
Statement 2 : Class A Foam concentrate primarily for class A Fire.
- (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false

230. Assertion : As per the investigations, the electrical fires are the result of defects or deficiencies in the protective system.
Reason : Electrical short circuits are not the causes of fires. They are stages in the failure processes which sometimes, but not always, end in fires.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
☒ (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
231. Statement 1 : In arson investigations, the primary goal is to determine the cause of the fire.
Statement 2 : Accelerants are substances that slow down the spread of a fire.
- (A) Both the statements 1 and 2 are true
☒ (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
232. Read the following options below:
- IS-4571: Specification for aluminum, extension ladders for fire brigade use
 - IS-2189: Selection, installation and maintenance of automatic fire detection and alarm system
 - IS-4989: Foam concentration for producing mechanical foam for firefighting
 - IS-901: Design of Sprinkler System
- ☒ (A) only i, ii and iii (B) both i and ii
 (C) only ii (D) both iii and iv
233. A proper investigation by a coroner will always include analysis of the blood for the percent of carboxyhemoglobin contained in it. On what percentage above of the following, it is highly probable that the person was at least unconscious at the time the fire reached him.
- (A) 10% (B) 20%
☒ (C) 40% (D) 60%
234. Which one of the following is not the necessary conditions for electrical fires?
- (A) Electrically powered equipment or lighting fixtures that depend on the suspected connection must be drawing current at the time of the fire
 (B) An overload or fault condition allowing excessive current to flow
 (C) Suitable combustibles present at the point of origin.
☒ (D) None of the above
235. Match the following:
- | | |
|-------------|-------------------------------------|
| a. IS 15105 | i. Water spray system |
| b. IS 15683 | ii. Automatic sprinkler system |
| c. IS 15325 | iii. Fire alarm and signalling code |
| d. NFPA 72 | iv. Portable fire extinguishers |
- (A) a - iii, b - ii, c - iv, d - i ☒ (B) a - ii, b - iv, c - i, d - iii
 (C) a - i, b - iv, c - iii, d - ii (D) a - iv, b - ii, c - i, d - iii

236. The minimum effective discharge time of extinguishers with 1A rating shall be not less than
 (A) 6 sec (B) 7 sec
☒ (C) 8 sec (D) 9 sec
237. i. Fire investigators are trained to determine the cause and origin of fires.
 ii. Fire investigators use a variety of techniques to collect evidence at fire scenes.
 iii. Fire investigators work closely with law enforcement officers to investigate arson fires.
 Which of the following is/are true?
 (A) i , iii, iv (B) i, ii and iii
☒ (C) i, ii, iii, iv (D) ii, iii, iv
238. Which hazardous chemical compound is commonly found in older buildings and poses a fire risk due to its fibrous nature?
☒ (A) Asbestos (B) Lead
 (C) Radon (D) Mercury
239. In wet-riser system, the words “Fire Service Inlet” should be written in letters at least _____ mm in height and _____ mm in width in fluorescent fire red colour.
 (A) 95, 20 (B) 90, 20
☒ (C) 75, 12 (D) 80, 15
240. Which of the following foam can be used for water miscible liquids?
 (A) AFFF (B) SYNDET
☒ (C) AFFF-AR (D) None of the above
241. The test pressure for low -pressure extinguisher is no less than
 (A) 5MPa (B) 4MPa
☒ (C) 2MPa (D) 7MPa
242. Statement 1: CO₂ flooding systems are primarily used for electrical fire protection.
 Statement 2 : CO₂ flooding systems are safe for use in occupied spaces.
 (A) Both the statements 1 and 2 are true
☒ (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
243. The fire water network shall be designed for minimum _____ kg/cm²g at all time
 (A) 5 ☒ (B) 7
 (C) 3 (D) 12
244. Statement 1 : Building codes do not address fire safety measures, such as the installation of smoke detectors and fire suppression systems.
 Statement 2 : The NBC 2016 does not include provisions for accessibility and barrier-free design for people with disabilities.
 (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
☒ (D) Both the statements 1 and 2 are false

245. For High Hazard occupancy, the density of water discharge for process risks shall be at least 10 l/min/m² over an assumed area of operation covering _____:
- (A) 84 m² (B) 260 m²
(C) 360 m² (D) 460 m²
246. A substation or a switch-station with oil filled equipment shall be limited to be installed in utility building or in outdoor location and be at least _____ away from the adjoining building(s):
- (A) 5 m (B) 6 m
(C) 7 m (D) 8 m
247. Assertion : The National Building Code focuses solely on structural safety.
Reason : Besides structural safety, the code also addresses aspects like fire safety, accessibility, and energy conservation in building design and construction.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
248. Which radioactive source is used in ionization type smoke detectors?
- (A) Thorium-249 (B) Plutonium-239
(C) Uranium-231 (D) Americium-241
249. What steps would you take to control bleeding from a nosebleed?
- (A) Sit casualty down, lean forward and pinch soft part of nose.
(B) Sit casualty down, lean backward and pinch soft part of nose.
(C) Lie casualty down and pinch soft part of nose.
(D) Lie casualty down and pinch top of nose
250. When a safety officer is appointed in factory?
- (A) Workers less than 500
(B) Workers more the 1000
(C) Workers more than 250 but less than 1000
(D) Workers less than 150
251. What is the primary mechanism by which a water jet extinguisher suppresses fires?
- (A) Cooling the fire (B) Smothering the fire
(C) Creating a barrier (D) Chemical reaction
252. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, the occupier or owner disobey the directives of fire authority while erecting temporary pandal, then he may be fined up to _____:
- (A) Rs. 20,000 (B) Rs. 25,000
(C) Rs. 35,000 (D) Rs. 50,000
253. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, on an application from fire expert, the competent authority may for its jurisdiction register fire expert for a period of _____:
- (A) One year (B) Two year
(C) Three year (D) Four year

254. Statement 1 : DCP extinguish fire by inhibiting free radicals.
Statement 2 : There are four elements in fire tetrahedron.
☒ (A) Both the statements 1 and 2 are true
(B) Statement 1 is true and statement 2 is false
(C) Statement 1 is false and statement 2 is true
(D) Both the statements 1 and 2 are false
255. Which type of fire extinguishing agent is suitable for use on a Class K fire, such as a kitchen grease fire?
(A) Halon (B) Dry chemical powder
(C) Water ☒ (D) Wet chemical
256. Assertion : Fire Wall is used to Compartmented a building and to prevent the spread of fire.
Reason : Fire wall is typically made up of concrete and Brick.
(A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
☒ (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
257. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, electric cable/wires used shall be of _____ grading with mechanical circuit breaker and earth leak circuit breaker:
(A) 500 volts (B) 600 volts
☒ (C) 700 volts (D) 800 volts
258. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, fire alarm system with smoke detection shall be provided for all non-residential buildings having height of _____:
(A) Less than 25 meters ☒ (B) More than 25 meters
(C) Less than 24 meters (D) More than 24 meters
259. What is the term for the minimum temperature at which a fuel-air mixture will ignite and sustain combustion when exposed to an open flame or spark?
☒ (A) Autoignition temperature (B) Flash point
(C) Fire point (D) Smoke point
260. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, for hydrant system on/off switches shall be located _____ at each floor for the main fire pump. :
☒ (A) Near hose reel hose or hydrant outlet (B) At the floor landing
(C) In the pump room (D) All of the Above
261. Which of the following is a common fire triangle component in fire science?
(A) Water ☒ (B) Fuel
(C) Sand (D) Glass
262. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, for buildings more than 40 meters in height shall be provided open space of _____ wide, adjacent to the building:
(A) 4 meters (B) 6 meters
☒ (C) 8 meters (D) 9 meters

263. Which of the following is the primary purpose of fire codes and regulations?
- (A) To generate revenue for local governments.
 (B) To control land use and zoning.
☒ (C) To promote fire safety and prevent fire hazards.
 (D) To provide guidelines for interior design and aesthetics.
264. The minimum burst pressure for low- pressure extinguisher is no less than
- ☒ (A) 55 bar (B) 60 bar
 (C) 50 bar (D) 65 bar
265. Assertion : Carbon dioxide are not used in active metals and metal hydride.
 Reason : Metal hydrides decomposes the Carbon dioxide.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
266. Which of the following statements about the fundamental of management is correct?
- i. Management is the process of planning, organizing, leading, and controlling resources to achieve organizational goals.
 ii. Planning involves setting goals, developing strategies, and making decisions about how to achieve those goals.
 iii. Organizing involves assigning tasks and responsibilities to employees and creating a structure for the organization.
 iv. Leading involves motivating and inspiring employees to achieve the organization's goals.
- (A) only i, ii and iii (B) both ii and iv
☒ (D) all the options of i, ii, iii and iv
267. Which of the following points are the Necessity of Ascertaining the Time of Ignition?
- (A) To assist the investigation officer to form an opinion of the conduct of the fire
 (B) To check the actions of any persons who would be habitually or casually present near or passing the premises at the time of ignition
 (C) To check the statement made by a suspect as to his where about at the time of ignition
☒ (D) All of the options
268. Consider the UFL for a certain flammable gas is 11.0% at 0.0 MPa gauge, what is the UFL at 8.2 MPa gauge? (assume $\log 8.2=0.92$)
- ☒ (A) 50.5 % (B) 52.2 %
 (C) 48.0 % (D) 90.2 %
269. Mass of 10.5 m Aluminum extension ladder is _____
- (A) 20 (B) 30
☒ (C) 48 (D) 58
270. Which material is known for its excellent heat insulating properties and is commonly used in the construction of homes and buildings?
- (A) Copper (B) Aluminium
☒ (C) Fiberglass (D) Steel

271. Assertion : BLEVE (Boiling Liquid Expanding Vapour Explosion) occurs when containers of liquefied gases are exposed to fires.
Reason : It is caused by the failure of a Vessel containing a liquid or a liquefied gas at a temperature significantly above its boiling-point at normal atmospheric pressure, leading to the sudden generation of a large amount of flammable gas due to flashing of the superheated liquid.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
272. What is the primary purpose of the impeller in a centrifugal pump?
- (A) To measure the flow rate.
(B) To provide positive displacement.
(C) To convert kinetic energy into pressure energy.
(D) To control the direction of water flow.
273. When assessing fire hazards in a building, what does the “flashover” phenomenon refer to?
- (A) The sudden ignition of a flammable liquid
(B) The rapid and widespread ignition of combustibles in a space
(C) The emission of visible smoke from a fire
(D) The point at which the fire triangle is complete
274. If a process normally requires a flammable solvent and a way to perform the same work with any solvent is developed, the inherent hazards of the process are greatly reduced, then it is termed as:
- (A) Elimination (B) Substitution
(C) Isolation (D) Engineering Control
275. A person who has an “inordinate or ungovernable enthusiasm for starting fires, who lacks a conscious motivation for his fire setting” is:
- (A) Pyrotechnic (B) Pyromaniac
(C) Schizophrenic (D) None of the Above
276. A suspected gas can be identified by laboratory analysis. Characteristics such as ignition temperature, flammable limits, vapor density, boiling point. Once quantified, the values associated with each of these properties serve as _____ that differentiates one gas from another in gas investigation.
- (A) Venting (B) Striking
(C) Sleeving (D) Finger print
277. _____ valve which allows water to flow into piping system to discharge from all open pipes or spray nozzles.
- (A) Deluge Valve (B) Stop Valve
(C) Alarm Valve (D) Regulator valve

278. Once a fire investigator is notified of a vehicle fire, the decision as to whether or not, he or she will respond to the scene is usually based upon one of the factors mentioned below?
- (A) Number and type of other fire cases under investigation that require active follow-up
- (B) Preliminary determination made by the fire officer who directed the fire suppression operations.
- (C) Time of day, most incendiary vehicle fires occur at night in remote areas where lighting conditions are poor, whereas a detailed examination requires daylight.
- ☒ (D) All of the above
279. Assertion : Wet chemical extinguishing systems are ideally suited for class A fires.
Reason : The main extinguish action is cooling caused by the heat of vapourization.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- ☒ (D) Assertion is false but Reason is true.
280. Which compound is added into DCP to use it for A, B, C classes of fire?
- (A) Ammonia (B) Caustic soda
- ☒ (C) Mono ammonium phosphate (D) Calcium sulphate
281. Assertion : Fire sprinkler systems are an effective means of fire protection in buildings.
Reason : Fire sprinkler systems can quickly suppress fires, preventing them from spreading and causing extensive damage.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Assertion is false but Reason is true.
282. The most common type of drowning is:
- (A) Homicidal (B) Suicidal
- ☒ (C) Accidental (D) All are equally common
283. Which of the following statements regarding “washerwoman’s hands” is true?
- (A) This finding indicates that the person drowned withing the last few hours
- ☒ (B) This change occurs faster in warm water than cold water
- (C) The changes in this finding first affect the back of the hand
- (D) It is also known as cutis anserina
284. When designing a sprinkler system for fire protection, which factors must be considered?
- i. Building occupancy and use
- ii. Water supply and pressure
- iii. Sprinkler head orientation
- iv. Ignoring building layout and occupancy
- ☒ (A) only i, ii and iii (B) both ii and iv
- (C) only ii (D) both iii and iv

285. Centrifugal Pumps used as Fire Water Pumps?
 Statement 1 : Centrifugal pumps are highly efficient
 Statement 2 : Centrifugal pumps provide a relatively constant water pressure, ensuring a steady flow of water to combat fires effectively.
 (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false
286. Assertion : In metal fire we can use DRY POWDER extinguisher
 Reason : Metal fire rapid oxidation reaction of metal with oxygen the high amount of heat generated in this reaction can cause temperature to rise as high as 2000-3000°C
 (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 (C) Assertion is true but Reason is false.
 (D) Assertion is false but Reason is true.
287. Which of the following information should not be made available to the firefighters in the most fire investigation scenarios?
 (A) The type of information attainable or developed prior to the arrival on the fire scene
 (B) The information available to the firefighters at the fire scene
 (C) The type of information that becomes available during overhaul and thereafter
 (D) The type of predicted source obtained to cause a fire prior to the arrival after the fire scene
288. Match the following?
- | List I | List II |
|-------------------------|-------------------------|
| 1. Removal heat | a. Smothering from fire |
| 2. Removal of fuel | b. Cooling from fire |
| 3. Removal of Oxygen | c. Starvation from fire |
| (A) 1 - a, 2 - c, 3 - b | (B) 1 - b, 2 - c, 3 - a |
| (C) 1 - c, 2 - a, 3 - b | (D) 1 - b, 2 - a, 3 - c |
289. False high BP is seen in following conditions except
 (A) Auscultatory gap
 (B) Small cuff
 (C) Thick calcified vessel
 (D) Obesity
290. Statement 1 : The act empowers the Central Government to make rules for controlling and regulating the petroleum industry.
 Statement 2 : Under the Petroleum Act, 1934, the licensing of petroleum installations is not required.
 (A) Both the statements 1 and 2 are true
 (B) Statement 1 is true and statement 2 is false
 (C) Statement 1 is false and statement 2 is true
 (D) Both the statements 1 and 2 are false

291. Assertion : Flashover is a stage in a fire, where smoke and heat buildup rapidly.
Reason : Flashover occurs when the fire has consumed all the available oxygen in an enclosed space.
- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(C) Assertion is true but Reason is false.
(D) Assertion is false but Reason is true.
292. What is the phenomenon by which pressure difference is created between inlet and outlet of the chimney?
- (A) Venturi (B) Bernoulli effect
(C) Draught (D) Viscosity
293. Which of the following is the best method of investigating the failures
- (A) By preventing the onset of the degradation processes through the implementation of judicious changes in the design of the equipment.
(B) By averting the offsite of upgradation process through the measured changes in the maintenance of the equipment.
(C) By foiling the onset of the upgradation processes through the construction of judicious changes in the manufacturing the equipment.
(D) By thwarting the offset of the degradation processes through the implementation of judicious changes in the design of the equipment.
294. According to Gujarat fire prevention and life safety measures Act 2014, the fire safety certificate issued under rule 23 unless sooner cancelled shall be valid for a period of _____ years for residential buildings (other than hotels) and _____ years for non-residential buildings including hotels from the date of issue.
- (A) 5, 3 (B) 4, 6
(C) 3, 5 (D) 6, 2
295. Suspicious circumstances for arson fire can be
- (A) Multiple fire (B) Intensity of fire
(C) Difficulties in extinguishing of fire (D) All of the above
296. When performing a confined space rescue, what are primary considerations for fire service responders?
- i. Ventilation of the confined space
ii. Continuous monitoring of atmospheric conditions
iii. Establishing effective communication
iv. The use of confined space entry permits
- (A) only i, ii and iii (B) both ii and iv
(C) only ii (D) all the options of i, ii, iii and iv
297. If actual discharge is more than theoretical discharge, the slip of the fire pump will become
- (A) Positive (B) Negative
(C) Zero (D) None of the above

298. Which one of the following is not an important question that should be answered by all witnesses in order to assist the technical investigator with background information?
- (A) What was the color of the smoke?
 - (B) From what part of the building was the smoke emerging?
 - (C) Did any sharp noise or sudden eruption suggestive of an explosion occur at any time?
 - ☒ (D) During which part of the fire did the detonation not occur, relative to finalization and buildup period?
299. As per Gujarat Fire Prevention and Life Safety Regulation, 2016, all lifts of the building shall be fire lifts and shall have provision to ground in case of electrical failure:
- ☒ (A) True
 - (B) False
 - (C) Can't say
 - (D) None of the above
300. Assertion : Fires can occur in microgravity environments, such as on the International Space Station.
- Reason : Fire dynamics in microgravity are influenced by the absence of buoyant convection, which leads to different flame shapes and combustion behavior.
- ☒ (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - (B) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
 - (C) Assertion is true but Reason is false.
 - (D) Assertion is false but Reason is true.